Divestment from Coal Sector in Response to Higher Risk Assessment by Insurance Companies: Poland Case Study

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1 Introduction

The UN Framework Convention on Climate Change, adopted in 1992 at the Rio de Janeiro Earth Summit, came into force 3 years later. However, it took much longer to adopt specific commitments to actually reduce greenhouse gas (GHG) emissions. Discussions held during the annual Conferences of the Parties (COP) to the UN Framework Convention on Climate Change were often idle and for many years did not lead to the development of a program of decisive measures to reduce greenhouse gas emissions. According to the Intergovernmental Panel on Climate Change (IPCC), 2 °C is considered to be the maximum temperature rise before triggering significant risks to society. Staying below this threshold requires significantly limiting carbon emissions, and notably burning only 1/3 of existing fossil fuel reserves by 2050 according to the International Energy Agency. The provisions of the Kyoto Protocol did not bring the expected decrease in CO_2 emissions. The necessity to accelerate and strengthen actions for climate protection has been clearly articulated in the Paris Agreement during 21 COP of the United Nations Framework Convention on Climate Change. The main aim is dealing with greenhouse-gas-emissions mitigation, adaptation, and finance, starting in the year 2020. The Paris Agreement proved to be a significant impulse for the financial sector to redefine the directions of investment and insurance policy. It is expected, that enforcing carbon constraint through market, societal and regulatory pressures could result in significant loss of value ("stranded assets") for the most carbon intensive businesses. Meanwhile, predicted changes in the natural environment were taking place throughout that time, of which the most evident and dramatic effects are extreme weather and climate phenomena and those related to the melting of the mountain glaciers

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feeding the rivers. This is reflected in statistical data on losses incurred in the last 10 years as a result of natural disasters caused by extreme weather phenomena and climate change. These data are closely followed by investors who increasingly give up spending on investments in industries responsible for the largest GHG emissions and in areas most threatened by extreme weather events. In other words, one can observe divestments motivated, on the one hand by the concern about economic benefits and, on the other, about the Earth's climate. The aim of the study was to find an answer to the question: Have foreign investors already started divestments from the Polish coal sector? The paper analyzes examples of divestments resulting from the new risk assessment related to climate change. Such trend is already evident among global insurance companies. It seems that it has just arrived in Poland too.

2 Methodology

In order to investigate the importance of insurance companies in the fossil fuel underwriting sector, the respective information provided on publicly accessible online sources by the insurance groups themselves was analyzed.

To answer the research question statistical data on coal mining and trading in Poland as well as information on investment strategies of insurance companies involved in the Polish coal sector were analyzed.

The study concerns the years 2015–2018, because of the strong impact of Paris Agreement (2015) on divestment from the coal industry around the world.

3 The Types of Risks Associated with Climate Change

From the point of view of origin, the following types of risk are associated with non-geophysical natural disasters:

- Meteorological—tropical storms, convection storms and local storms,
- Hydrological—floods and landslides,
- Climate—extreme temperatures, drought and forest fires.

They often occur together and are associated with weather extremes. It is estimated that since the 1980s, the amount of compensation paid for disasters caused by weather events has doubled every decade (indexed to inflation) [1]. It is estimated that about 3/4 of natural disasters are associated to hydro-meteorological phenomena. Threats concern both health and life of people, as well as the condition of infrastructure and property of various economic entities as well as the possibilities of investing and running a business. Hot waves (less frequently cold), pose a serious threat to the health and life of the population, rather than to the material infrastructure [2]. Data published by Munich Re for the years 2004–2015 show that all categories of weather and climate events accounted for the majority of natural disasters.

Considering four categories of data, their shares were as follows: total number of events from 85 to 94%, total losses from 39 to 97%, deaths from 5 to 95%, and insured losses from 56 to 99%. In 2015, 94% of worldwide insurance payouts for natural disasters stemmed from extreme weather events such as flooding and flash flooding, with payouts increasing even further in 2016. In its annual natural catastrophe review, Munich Re said flooding, including river flooding and flash flooding, caused more than a third of all losses—far above the 10-year average of 21% [3, 4]. In 2016, global losses from natural disasters amounted to USD175 billion—a two-thirds increase compared with 2015—caused by increasingly powerful storms and "exceptionally" high number of severe floods [5–7]. The report published in December 2016 by ClimateWise coalition said that the "protection gap"—the difference between the cost of natural disasters and the sum insured—increased fourfold up to USD100 billion.

In 2015, the total worldwide economic losses from natural and man-made catastrophes were estimated at USD92 billion, of which only USD37 billion was insured [8, p. 16].

The following risks are associated with climate change:

- Material—include threats to operating activities and supply chains resulting directly from extreme weather events;
- Regulatory—related to international efforts to limit the increase in the average temperature on Earth;
- Legal—refer to the concept of ecological harm and attempts to obtain compensation by injured persons;
- Technological—related to the development of new markets and sectors introducing risks for existing business models;
- Reputational—related to the expectations of increasingly ecologically aware stakeholders.

In connection with the increase in the frequency and intensity of impact of extreme weather phenomena commonly associated with climate change, one can observe changes in the behavior of enterprises and investors on the financial markets. This applies both to investments in companies dealing in the extraction and energy use of coal, and insurance companies and investment banks. On one hand, it manifests itself in the increase of the popularity of including the issues related to climate change (mainly CO_2 emissions and their changes) in their corporate social responsibility (CSR) reports; on the other hand it takes the form of divestments in the coal sector in accordance with the new principles of responsible investment (RI), as a part of environmental, social and governance (ESG) practices.

Reporting the risk related to climate change and taking into account climate protection issues in the investment processes and ongoing operations of enterprises has become a fact. This is evidenced by the publication of guides and formalized reporting principles addressed to various groups of investors. Examples of such practices include: Global Reporting Initiative (GRI), or "A Guide to Investment Preparation Taking into Account Climate Change, Its Mitigation and Adaptation to These Changes and Resilience to Natural Disasters" [10] published by the Polish

Ministry of the Environment. Criteria of ESG are increasingly used. Those criteria are a set of standards for a company's operations that socially conscious investors use to screen potential investments. Environmental criteria look at how a company performs as a steward of nature. Social criteria examine how a company manages relationships with its employees, suppliers, customers and the communities where it operates. Governance deals with a company's leadership, executive pay, audits, internal controls and shareholder rights [11].

4 Divestments from the Coal Industry

The Paris Agreement signed during the 21st COP was a strong impulse for undertaking actions directed against the development of coal business. The increasingly critical evaluation of the coal sector as the main perpetrator of climate change has become evident on the financial markets. It takes three forms:

1. Investors' withdrawal from direct financing of investments in new coal mines and power plants;
2. The withdrawal of investors from financing enterprises which derive a large part of their income from servicing the coal industry; This applies to all companies belonging, in the industry value chain: producers of machinery and equipment for coal mines, coal-fired power plants and coal processing, transport companies and their suppliers.
3. Tightening the criteria used by insurance companies with respect to enterprises (corporations), whose activities may pose a threat to climate protection.

The first global insurance company which decided to withdraw from the coal business was France-based insurer AXA, divesting hundreds of millions of dollars in coal investments in 2015. The AXA Group has a commitment to responsible investment, embodied in its Group Responsible Investment Policy. It is a key element of AXA's broader Corporate Responsibility strategy. AXA has decided to divest from companies most exposed to coal-related activities "in the belief that sending such a signal to markets and regulators generates a positive influence and contributes to de-risking our portfolios".

AXA will divest equity assets and will stop investing corporate fixed income assets in the following types of businesses:

- Electric utilities with coal share of power production (energy mix) over 30%;
- Electric utilities with coal-based power "expansion plans" over 3 gigawatts;
- Mining companies with coal share of revenues over 30%;
- Mining companies with annual coal production over 20 million tonnes.

As a global insurer, AXA will no longer cover certain risks as follows:

- The development of new coal capacity is banned by ending construction covers for any new coal plant and new coal mine, whichever the region or client (regardless of investment blacklist). This includes Marine Project Cargo policies related to the construction of new coal power plants or coal mines.
- The operation of existing coal projects is restricted by ending property covers for existing coal plants when these are included in coal-only risk packages. This does not apply to emerging countries where access to energy remains a concern for local populations, and baseload energy alternatives are not yet in place [12].

Other insurance companies followed AXA Group. Divestment behavior is demonstrated by other large financial companies such as Lloyd's of London, Allianz, Aviva, BMO Global Asset Management, Generali, Munich Re, Natixis, Legal & General, SCOR, Storebrand, Swiss Re, and Zurich Insurance Group. They began to exclude coal from their investment strategies and tightened the criteria for covering insurance in areas particularly exposed to hydrological, meteorological and climatic phenomena. According to the Unfriend Coal Network report the global coalition of organizations, about 15 billion pounds have been disposed of by insurers in the last 2 years. For example, the insurance market associated with Lloyd's of London implements the policy of excluding coal as part of a responsible investment strategy. This means that wherever possible Lloyd's will avoid investing in companies that mainly deal with coal.

Insurers are huge investors with approximately USD31 trillion of assets under management, and hundreds of billions of dollars invested in the fossil fuel sector [13, 14].

When focusing on the reported total assets under management (AUM), it can be seen that Aviva, with 3.2%, invests the highest proportion of its reported total AUM in the fossil fuels sector. Allianz (3.1%) and AXA (2.3%) both also invest more than 2% of their reported total AUM in the fossil fuels sector. In recent years approximately more than 1000 institutional investors representing more than USD793 trillion in assets have decided to divest their assets from fossil fuels in one way or the other [15].

The insurance groups can be classified into three different categories, indicating their level of involvement in the global fossil fuel underwriting sector:

1. "Low: the insurance group is barely involved in the global fossil fuel underwriting sector;
2. Medium: the insurance group is moderately involved in the global fossil fuel underwriting sector, being involved in at least two countries;
3. High: the insurance group is highly involved in the global fossil fuel underwriting sector, being one of the market leaders or active participants in at least one world region."

Investors, who exclude from their portfolios enterprises from the coal sector, most often apply thresholds in the amount of revenues obtained from coal mining or production of energy from coal at the level of 50 or 30%. This is an important change in the approach to investment. It may be insufficient, however, because the percentage criterion presents only the relative importance of coal in the company's operations. It is worth taking into account the absolute volume of production in the coal industry. This is included, for example, in Global Coal Exit List (GCEL) reports which list all companies according to a 30% threshold share of coal or coal energy in revenues, and all companies which produce more than 20 million tonnes of coal per year or utilize over 10,000 MW of coal-fired power. This is important because among the 328 companies included in the GCEL reports, 30 out of them account for more than half of the global coal production, of which 11 have a share in revenues from coal above 50% [9].

5 Insurance of Coal Sector in Poland

An interesting situation is currently in Poland, where the government is still planning investments in coal mining and coal energy production. It is clear from the *Program for the hard coal mining sector in Poland* published by the government that by 2030 new investments are planned in this sector. It presents the development directions of the hard coal mining sector in Poland together with the objectives and actions necessary to achieve them [16].

The main goal of the Program has received the following wording:

Creating conditions conductive to the construction of a profitable, effective and modern hard coal mining sector, based on cooperation, knowledge and innovation, which, acting in a friendly and predictable program and legal environment, allows effective use of resource, social and economic capital to ensure high energy independence of Poland and supporting the competitiveness of the national economy.

This is a goal which is far from the clearly emerging global divestment trend in the coal sector.

> The European coal market has already been in a downward trend since 2012. Low wholesale electricity prices, the loss of fossil fuel energy share in the market in favor of subsidized renewable energy and the pressure from environmental regulations were the main reasons for the deteriorating situation. Hard coal production in the European Union countries has been decreasing. Among EU countries producing hard coal Poland, with a production of 70.4 million tonnes (2016), is significantly ahead of the Czech Republic (6.8 million tonnes), Great Britain (4.2 million tonnes), Germany (4.1. million tonnes) and Spain (1.7 million tonnes) [16, p. 9].

Insufficient own mining is supplemented by imported coal. In 2016, hard coal imports to the EU decreased to 166.8 million tonnes from 190.7 million tonnes in 2015. Germany remains the largest importer (53.1 million tonnes in 2016), followed by Italy (17.9 million tonnes), Spain (14.7 million tonnes), and the Netherlands (14.5 million tonnes). The largest, nearly 60% drop in coal imports, was recorded by the United Kingdom, which is associated with an increase in tax on emissions. It is worth noting that in the case of Germany, domestic mining plus imports together give a smaller amount of coal then that extracted in Poland. In the EU Countries, coal is on the third position with a 14% share in the European energy mix, after crude oil (37%) and natural gas (23.5%) [16]. As is clear from the quoted data, the situation in the coal sector in Poland clearly differs from European trends. According to the reference scenario included in the Program, in the perspective of 2030, the current level of demand for total hard coal will be maintained (approximately 70–71 million tonnes per year, including energy coal 57–58 million tonnes, and coking coal 13.0 million tonnes). Polish companies are planning to build power plants able to generate more than 10 gigawatts and open new mines holding more than 3.2 billion tonnes of lignite, the dirtiest form of coal [17, 18]. However, the consumption structure will change—an increase in professional power engineering by 5.7 million tonnes and a decrease in households by 4.7 million tonnes. Implementation of the scenario will require government's support.

This is a conservative scenario, as if the Polish government did not see clearly visible changes in the global market of coal and energy from fossil fuels. The Program completely omits the issue of divestment in the coal sector, ignoring the fact of its clear presence on the international arena.

There is also a visible impact on insurance of investments in this sector.

So far, according to the Unfriend Coal report, European insurers invested over GBP1.15 billion in Polish coal companies, and since 2013 they have signed at least 21 insurance contracts for coal power plants. Allianz is the leader of the consortium, which insures the largest coal-fired power plant in Europe in Opole. The consortium includes also the Italian Generali, German Munich Re, British Aviva, and the Polish PZU. The current approach of these insurers to the issue of divestment is diverse. Their policy and approach to the divestments and exceptions is presented in Table 1.

Europe's biggest insurer, Allianz is one of the insurance groups with a global capacity in the fossil fuel underwriting sector, and one of the world's leading insurance partners for power and utility companies and the oil and gas industry. Allianz defines coal-based business models as:

- Mining companies deriving 30% or more of their revenues from mining thermal coal;
- Electric utilities deriving 30% or more of their generated electricity from thermal coal.

Coal mining related transactions are screened on environmental risks, such as mountain-top removal. Furthermore, use of brown coal in power plants is regarded an ESG risk and is also part of the screening criteria. Allianz has no policy to avoid insurance transactions with companies or projects involved in mining, extraction or energy production from fossil fuels. Allianz, is leading a consortium underwriting the biggest coal power plant under construction in Europe at Opole near Katowice, a PGE project, which is due to start operating in 2019.

Aviva is among a number of major European insurers which are backing the expansion of Poland's coal industry. Aviva has invested GBP372.7 million in Polish coal, more than any other insurance company apart from the Dutch firm Nationale Nederlanden. It has a 2.3% stake in the country's largest power company PGE, which operates two of Europe's most polluting coal plants at Bełchatów and Turów and plans to build new coal plants generating more than 5.2 GW. Aviva decided to focus on engagement rather than on divestment, and has only divested from very few companies if engagement was completely unproductive. According to Aviva's

Table 1 Policy, divestments and exclusions in the activity of foreign insurance companies involved in Polish coal sector

Insurance company	Policy	Divestments and exclusions
Allianz (Germany)	Allianz has a measurable target to reduce the carbon footprint of its operations (30% by 2020, against a 2010 baseline) and strives to maintain its carbon neutral status by investing in carbon offset projects	In November 2015 Allianz decided to stop financing coal-based business models, by divesting proprietary equity stakes amounting to EUR 225 million in coal-based business models by the end of March 2016 Fixed income stakes (amounting to EUR 3.9 billion) can be held until maturity (run-off) An exception to invest in these companies is only possible, following a case-by-case assessment, if the share of revenue or generated electricity from coal is between 30 and 50% and if the company has a clear strategy to reduce its coal share below the 30% threshold within a reasonable period
Aviva (Great Britain)	Aviva has public targets to reduce the direct (business units) and indirect (suppliers) environmental impact of its operations and reports about the results. The following of these targets are related to climate change: Reduce operational (buildings and travel related) CO_2 emissions by 5% on an annual basis; Reduce operational CO_2 emissions by 40% by 2020, and by 50% by 2030 with regard to the 2010 baseline	Divestment is part of Aviva's engagement strategy towards companies active in thermal coal mining or coal power generation and will be effectuated in case not sufficient progress is made towards the engagement goals set. In November 2016, Aviva announced that it had identified two companies for potential divestment, as they had planned to increase fossil fuel capacity instead of decreasing it. As for now, there are no reports that divestment from these companies has been effectuated
Generali (Italy)	For its own operations, Generali has a measurable target to reduce its greenhouse gas emissions by 20% by 2020 and publishes reduction performance data	No information found
Munich Re (Germany)	Munich Re seems to be quite aware of the risks involved with climate change. Through public statements and press releases, the insurance company expresses its concerns about an increase of catastrophe losses caused by extreme weather. Munich Re has set up a special research and development department to analyze the consequences of climate change and to come up with recommendations for action for the group	Declared not to hold "any equities of companies which generate more than 50% of its revenues with coal production or power generation with coal" There is no divestment policy for fossil fuels Exclusion is only used as a responsible investment strategy for the sustainable equity fund of Munich ergo asset management GmbH MEAG. Producers of tobacco, alcoholic beverages, and arms and weapons are excluded, as well as companies in the gambling industry

Source: [19]

managers, climate change will "render significant portions of the economy uninsurable, shrinking our addressable market" [20].

Italy's biggest insurer Generali has declared it would stop offering construction coverage for any new coal mine and new coal plant. In a further step up of its "green" policy, Europe's third biggest insurer added it would not provide insurance for coal-related assets of potential new clients [21].

Munich Re continues to be highly involved in financing and underwriting coal and other fossil fuel projects. The company has not excluded insuring new coal power plants, and holds assets in electric utilities which are currently planning new coal power plants to the tune of 13,100 MW [22]. Profundo identified at least USD2168 million of Munich Re assets invested in fossil fuel companies. This accounted for 8% of all investments found [13].

Polish Group PZU (through TUW PZUW and PZU SA), insures the mines responsible for approximately 80% of coal production in Poland, as well as coal-fired power plants generating nearly 30% of the capacity installed in the national power system. PZU insures the Połaniec Power Plant owned by Enea and five power plants of the Polish Energy Group (PGE). These are Bełchatów Power Station, Turów Power Plant, Dolna Odra Power Plant, Pomorzany Power Station and Szczecin Power Station. The PZU Group also insures the construction of new capacity at Elektrownia Opole (PGE), is involved in the project of Ostrołęka C Power Plant (Energa and Enea), and has insured the construction of a recently completed block in Kozienice Power Plant (Enea). In addition, six PGE CHP plants are covered by PZU insurance (in Bydgoszcz, Gorzów, Kielce, Lublin, Rzeszów and Zgierz) and three belonging to PGNiG Termika (combined heat and power plants Siekierki and Żerań in Warsaw and Elektrociepłownia Pruszków) [23]. In the Group's portfolio there are PLN3 billion located in shares and bonds of coal companies. The PZU Group does not address the issue of climate change or the relationship that links it to the burning of coal in the energy sector.

Because companies which insure coal mines and coal-fired power plants in Poland belong to world leaders, they face the necessity to clearly define their strategy, also in relation to this sector in this country. They are already criticized for the lack of coherence in the implementation of the declaration to restrict investments in coal companies. This may lead to increasing difficulties in insuring old facilities and new investments in this sector. It is very likely that the PZU Group will be more and more alone in the insurance of the Polish coal sector, but if a project is not insurable, it is not bankable.

6 Conclusions

The Paris Agreement of 2015 has become an important impulse for divestment in the coal sector in the world. Over 1000 enterprises have already officially declared such targeting of their actions. To a large extent, this applies to global insurance companies, which in recent years have also put a lot of effort into researching the risks associated with climate change and the escalation of extreme weather events. An increased assessment of this risk meant that more and more insurance companies not only withdraw from the insuring companies in the coal sector, but also from financing this sector through the purchase of shares and bonds. A mere 30% share of revenue from coal mining or processing is sufficient to qualify the company as posing an increased risk to the climate. In Poland, contrary to the global trends, and certainly against European trends, the coal sector is an important part of the economy. What is more, it is planned to maintain coal production at the same level of about 70 million tonnes by the year 2030 and further development of the power industry using hard coal and lignite (brown coal). Meanwhile, insurance companies operating on global markets which are financially involved in the Polish coal sector face growing criticism from their own shareholders and customers. Answer to the research question posed in the introduction: Have foreign investors already started divestments from the Polish coal sector? is affirmative. The Polish coal sector is insured by Allianz, Aviva, Generali, Munich Re and PZU. In the analyzed period 2015–2018, foreign insurance companies entered the divestment path to a different extent: Allianz the most, Munich Re the least. It may mean that the Polish insurer PZU Group will be more and more alone in this field. So far, it has not declared divestment in the coal sector.

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