FOOL'S GOLD

The financial institutions risking our renewable energy future with coal

ABOUT THIS BRIEFING

This briefing is an initiative of the Europe Beyond Coal campaign.

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EXECUTIVE SUMMARY

The coal phase-out across Europe is happening faster than anyone thought it would. In 2019, Europe saw a record number of coal retirements and several countries announced coal phase-out plans and power utilities have taken new steps towards decommissioning their coal assets. Coal was already in structural decline[1] but COVID-19 and the associated social distancing measures have led to the further downfall of coal. The exact impact of the pandemic is yet to be determined but with electricity demand significantly reduced, a low gas price, booming renewables and carbon price still holding up well, the European coal sector is in trouble.

The recovery from the pandemic offers us a once-in-a-lifetime opportunity to rebuild our economy and to tackle the most important near-term measure to climate-proof the post-COVID energy system: a just and rapid transition from coal to renewable energy. This is where the financial institutions must join the collective effort and recalibrate their financial ties with the European coal companies.

Therefore, any financial ties to Europe's most polluting utilities must either be coupled with forceful coal company engagement calling for a coal phase out in Europe, OECD countries and Russia by 2030, or support to these companies must cease altogether. Based on the limited 1.5 degrees Celsius global carbon budget, coal emissions have to fall extremely fast this decade in all The Intergovernmental Panel on Climate Change (IPCC) 1.5 degrees Celsius emissions pathways leading to reductions by around four-fifths in 2030 relative to 2010*. In short, the success of the Paris Agreement is intimately linked to the success of quickly phasing out coal in the electricity sector.

The report takes a close look at eight European financial institutions with the most significant ties to eight significant coal utilities in Europe that are responsible for half of all EU coal-based CO_2 emissions: RWE, PGE, EPH, ČEZ, Enel/Endesa and Fortum/Uniper. Most of the assessed utilities show signs of a coal exit but not in the timelines required by science or with problematic design for the transition of their energy portfolios. Financial ties are defined as issued loans and underwriting services, bonds and investments. We bundle investments and bonds under 'investors' while those financial institutions associated with loans and underwriting are described as 'creditors'. These financial institutions have been dubbed the 'Exposed Eight' as their financial ties to coal have left them reputationally and financially vulnerable. Bond and shareholdings were included according to their most recent filing dates at the time of the retrieval: mainly in February 2020. The financial data for loan and underwriting deals by creditors is November 2018 - December 2019.

This research finds that the most coal-exposed investor associated with these utilities, the **Norwegian Government Pension Fund**, has invested **€1.5 billion** in shares and bonds. Other highly important investors include **Crédit Agricole**, **Allianz**'s through third party assets, and **Deutsche Bank**. In total, the investment by the four largest investors equalled **€5.0 billion.**

On the creditor side, **UniCredit** was the largest bank, providing **€2.8 billion** in loans and underwriting services, followed by **BNP Paribas**, **Barclays** and **Société Générale** since the IPCC 1.5 °C report was released in October 2018. In total, the crediting has amounted up to **€7.9 billion**.

* The non-overshoot scenario (P1 scenario)

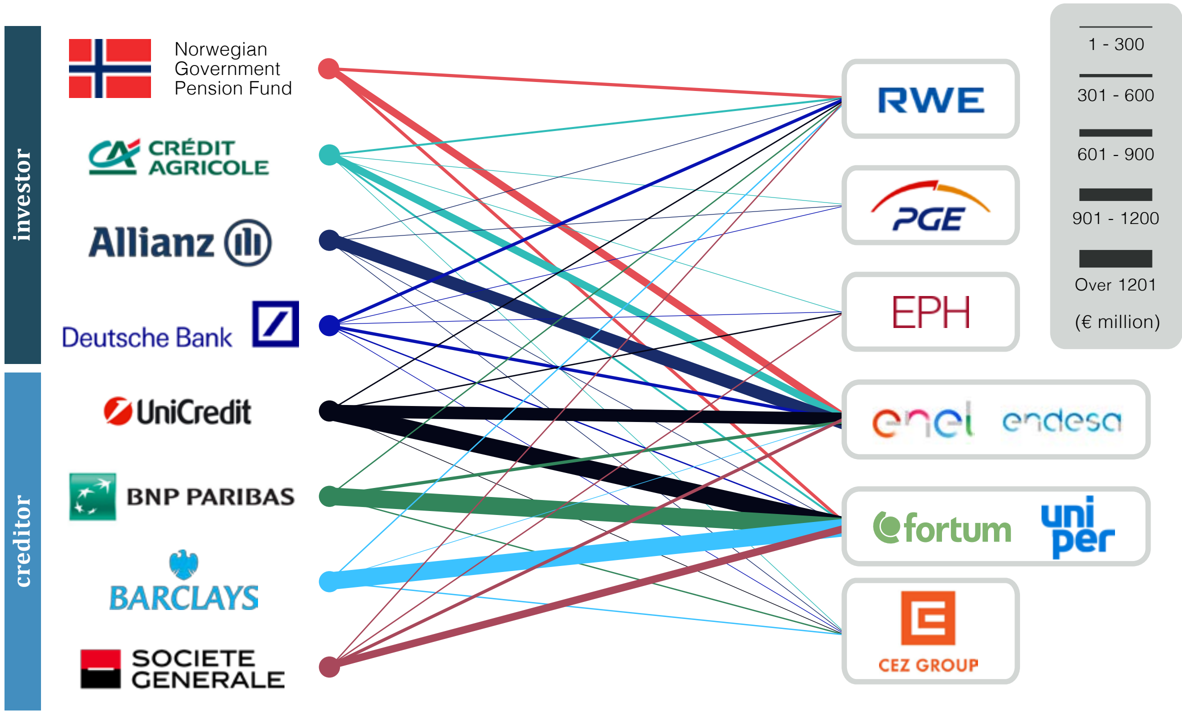

Figure 1: The 'Exposed Eight' and the financial ties to European coal companies. The investors also represent the asset managers. Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo. Shares and bonds data extracted February 2020, based on the most recent filing date. Loans and underwriting data reflects the period from November 2018 until December 2019.

The report also explores some of the most important international financial institutions backing the chosen European coal utilities for this report: BlackRock and the Japanese megabanks. BlackRock is the world's largest investor and the Japanese megabanks the biggest lenders to coal plant developers worldwide[2]. **BlackRock**'s investments in the eight European coal power utilities total **€7.0 billion**. **Mizuho Financial Group**, **Sumitomo Mitsui Financial Group (SMBC)** and **Mitsubishi UFJ Financial Group (MUFG)** have provided loans and underwriting for European coal corporations with **€1.9 billion** between November 2018 and December 2019.

It is noteworthy that many financial institutions provide additional support beyond lending and investment in the form of insurance and reinsurance lines of business. The insurance sector plays a critical role in perpetuating the use of coal, but that role falls outside the remit of the data analysis presented herein.

Furthermore, the other forms of fossil fuels are not part of the research. Unfortunately, the financial institutions associated with coal are highly likely to also be supporters of other fossil fuels, such as gas, oil and tar sands. In fact, nearly every coal company featured in this report has fossil gas expansion plans. Ultimately, these financial institutions must have a comprehensive set of policies to ensure that all high carbon assets are decommissioned and have an all-encompassing approach to the fossil fuel industry.

European capital is deserting coal: restrictive policies by European banks, investors and insurance companies have been adopted at an increasing rate. Unfortunately, the frequency of new policies does not necessarily reflect their quality. Coal policies are now commonplace but are often ridden with exceptions and tepid corporate engagement practices. The European coal utilities are, in effect, too often treated with kid gloves. Instead, deeper exclusions and appropriately forceful engagement are required to change the course in Europe in order to achieve a coal phase-out by 2030, as well as in the rest of the OECD and Russia, and by 2040 globally.

Introduction

In Europe, coal power is a dead man walking. Thanks to the tidal force of economics, in unregulated markets where coal does not benefit from subsidies, coal-power generation is largely unprofitable[3]. The EU ETS (Emissions Trading System) price, which has been fairly resilient despite the COVID-19 crisis that made the European economies contract, coupled with a low gas price and highly competitive renewables have ensured that coal is now falling behind competing sources of energy[4].

The European power utilities mostly responsible for burning European coal are demonstrably transitioning. Even in the most notorious coal countries such as Poland and Germany companies have started to introduce long-term plans where coal no longer features. However, it is also increasingly clear that these coal exits are not taking place in a straightforward manner. They are often only prompted by national government mandated phase-outs, and they generally take place too sluggishly. In many countries the process is marred by converting coal plants to burn fossil gas or unsustainable biomass instead. These same plans also often involve highly dubious political maneuvering to maximise the handouts given on the basis of early closures. Coal in Europe was already in structural decline prior to the COVID-19 crisis, with historic drop in generation in 2019[5], that only solidified a multi-year trend. The COVID-19 crisis has erased the remaining profitability of most coal power plants. However, many utilities may not feel the full force of this as they sold their electricity before prices crashed*. In short, a coal phaseout by 2030 in Europe is not guaranteed. More is needed from the decision-makers and, importantly, from those financial institutions that are still bankrolling coal.

Consequently, those private finance institutions that support coal companies have the responsibility to usher in the low-carbon transition. Fortunately, the European financial institutions have demonstrated to the rest of the world what is possible. Between January and June 2020, European financial institutions released nearly one new policy per week limiting financial ties to coal companies[6]. Coal policies by European banks, investors and insurance companies have been adopted at an increasing rate since the Paris Agreement[7] and most coal policies are, in fact, already revisions and updates rather than completely new ones. Therefore, it can be maintained that coal policies have become the starting point and a staple of financial institutions' climate policies.

However, it is evident in the 'Results' chapter of this document that the European coal policies do not yet reach far enough. In order to step up to the plate the financial institutions must strive for better quality policies and close existing loopholes.

Financial Institutions behind Europe's most polluting coal power utilities

Investors	€ billion
Norwegian Government Pension Fund	1.5
Crédit Agricole	1.4
Allianz	1.1
Deutsche Bank	1.0
* Shares and bonds (extracted Feb 2020, based on the most recent filing date).	Total 5.0 billion

Creditors	€ billion
UniCredit	2.8
BNP Paribas	2.1
Barclays	1.7
Societe Generale	1.3
* Loans and underwriting since the IPCC Special Report on Global Warming of 1.5 C published October 2018 until December 2019.	Total 7.9 billion

Figure 2: The 'Exposed Eight' and their capital flows into RWE, PGE, EPH, ČEZ, Enel/Endesa and Fortum/Uniper.

Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo.

* For example, Fortum/Uniper and RWE have all stated that they remain largely unaffected by the crisis due to hedging.

1. RESULTS

This report explores the financial flows from shareholding, bonds, lending and underwriting benefiting the eight most significant European coal companies measured in annual coal-based emissions: RWE, PGE, EPH, ČEZ, Enel/Endesa and Fortum/Uniper. The results are presented for European investors, BlackRock, European creditors and the Japanese megabanks. The detailed methodology can be found in chapter 4.

Each section includes details on the financial data and the interpretation of the results in the context of each financial institution. Furthermore, since every financial institution highlighted in this report has existing coal policies in place, the analysis will shed light on their respective weaknesses and where they should be improved. The coal policies have been analysed taking into account the entire coal supply chain going beyond the European coal utilities, and covering the following central elements:

- Project finance (not relevant to asset owners and asset managers).
- Coal developers.
- Exclusion thresholds for corporate finance (based on revenue, production or capacity).*
- Absolute thresholds for well-diversified coal companies (Mt of coal produced or GW capacity).
- Phase-out policies adopted by the financial institutions and phase-out plans requested from coal companies (considered as a powerful form of engagement).
- Just transition.

Annex I of the report includes a comprehensive set of recommendations on coal to financial institutions, and provides more detail on each of the assessment criteria.

It is crucial to highlight that the financial institutions below are not only associated with coal but are, in fact, usually significant supporters of the fossil fuel sector as a whole**. Fossil fuels like oil, gas, tar sands and shale oil are far less comprehensively tackled than coal, and feature infrequently in financial institutions' exclusion policies. Therefore, the analysis below does not reflect the financial institutions' overall climate change policies – only their approaches concerning coal, the dirtiest of fossil fuels in absolute climate terms.

Furthermore, financial institutions often play multiple roles as investors, creditors and insurers. The coal policy analysis below has been conducted to reflect the part of the business that is relevant for the data presented, e.g. split along the lines of asset owners and asset managers (bonds and shares) or banks (loans and underwriting).

European Investors

The research finds that at the end of the year 2019 the top four European investors held **€5.0 billion** in shares or bonds in the eight focus coal companies. It is as much as the European Investment Bank's contribution to the EU response to Covid-19 given to vulnerable countries outside European Union[8]. Bond and shareholdings were researched as of their most recent filing dates: for bonds in the timeframe November 2018-19 and for shares mainly February 2020. A detailed analysis of the current coal policies are compiled in table 1.

* In Europe, power utilities' coal share of revenue is currently extremely low. Therefore a revenue based metric is inappropriate and should be reserved only for mining.

** For example, both Amundi and Axa voted against a climate-related resolution filed at the Total AGM. Access at (in French): https://www.connaissancedesenergies.org/afp/sous-les-pressions-la-finance-francaise-sort-lentement-du-charbon-200619. Furthermore, BNP Paribas was the biggest European fossil bank in 2019, despite its policy on unconventional oil and gas financing. Access at: https://www.ran.org/wp-content/uploads/2020/03/Banking_on_Climate_Change__2020_vF.pdf

While the report focuses primarily on the European financial institutions, the largest investors through share and bond holding are largely headquartered in the US. Therefore, in order to truly shape the companies' behaviour or economic outlook through shareholder activism – or divestment – it is not enough just to focus on the European finance actors. Inevitably, many company engagement interventions will also require US and other globally relevant financial institutions to adopt strict coal policies to exclude companies, and to boldly unleash biting engagement practices.

Similarly to the previous Fool's Gold report of 2019, **The Norwegian Government Pension Fund** remains the largest European investor with **€1.5 billion** in shares and bonds. The Fund had already excluded the Central and Eastern European (CEE) power companies in 2017, therefore all financial ties are associated with the Western utilities. Since retrieving the financial data (dated February 2020) the exclusion list of the Fund has been updated[9,10]. Norges Bank, tasked with the management of the Fund, now excludes RWE from its investment universe. Until May 2020, the Fund has been RWE's third biggest investor*. Endesa has been on Norges Banks' observation list since 2016, and Enel was added this year. Also, Uniper is now under observation, making its parent Fortum the last remaining focus utility that the Fund has not extended its policy to.

The second largest investor is **Crédit Agricole** with **€1.4 billion**. The main sources of capital flows into the focus utilities come from Amundi and Pioneer Investment, both Crédit Agricole asset managers. However, in 2019 the group Crédit Agricole announced a new coal policy[11] that placed rather strict expectations on coal companies. Crédit Agricole committed to phase out coal in its investment and assets under management portfolios by 2030 in the EU and OECD countries, this is aligned with the recommendations of Europe Beyond Coal. As part of the policy, companies are asked to provide Crédit Agricole by 2021 with a detailed phasing out plan of their coal-sector mining and production assets. Therefore, Crédit Agricole has not yet fully implemented the divestment phase. However, if the policy is followed through as intended the company's exposure to European coal should decrease soon, depending on the assessment process. It is to be noted that Crédit Agricole plays a dual role as investors and creditor and the policy covers both businesses**.

Allianz is in third place among European investors with **€1.1 billion**, mostly in Enel. Structurally, Allianz's business operations cover both insurance and asset management, this report only reflects the latter. As of December 31st, 2019, in the same time period as the financial data used in this report, it had approximately €2.3 trillion assets under management, with €1.7 trillion of third-party assets, making it one of the largest asset managers in the world. Allianz's exposure to European coal comes through in the data primarily due to the third-party assets that are managed through subsidiaries: Allianz Global Investors and PIMCO. Allianz introduced a divestment decision in 2015 and also a coal policy in 2018, which has since been tightened. However, the data demonstrates that the third-party assets remain a blind spot for the asset owning giant.

Finally, **Deutsche Bank** is the fourth largest investor with **€1.0 billion**. Deutsche Bank also plays a significant dual role as an investor and a creditor***. As an investor, mostly through DWS**** and Deutsche Asset Management, Deutsche Bank is one of the few European investors that is associated with every coal company featured in the report. It therefore has a substantial coal exposure and, consequently, a heightened stranded asset risk. At the time of writing, Deutsche Bank has also one of the weakest coal policies among the major European financial institutions, since neither the bank nor its subsidiaries limit general corporate finance to power utilities[12].

* Municipalities not counted (KEB Holding and City of Essen)

** Crédit Agricole's loans and underwriting services to the eight focus utilities November 2018 - December 2019 total €0.5 billion.

*** Deutsche Bank's loans and underwriting services to the eight focus utilities November 2018 - December 2019 total €1.3 billion.

**** Listed on Frankfurt Stock Exchange; Deutsche Bank is majority shareholder.

Table 1: Heat map for the quality of the coal policies of the investors. The assessment matrix is based on the thermal coal recommendations by Europe Beyond Coal and Reclaim Finance[13]. Please note that the policy analysis excludes the insurance sector since the financial data of the report does not explicitly touch upon insurance activities.

Policy aligned with EBC thermal coal recommendations (Annex I) — No policy

Financial Institution	Type	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
Norwegian Government Pension Fund (GPFG)[14]	Asset Owner	No	Exclusion of mining and power companies above 30% of revenues or power generation from coal.	20MT/ 10GW However, the Fund allows exceptions *, **	No	No[15]
Crédit Agricole	Asset Owner	Exclusion of all coal developers from 2021.	Exclusion of mining and power companies above 25% of revenues from thermal coal but with large exceptions and using the wrong metric revenues instead of power generation. Companies above 25% of revenues are assessed until 2021.	No	Full phase-out strategy by 2030 in the OECD and 2040 in the rest of the world. By 2021, a requirement for coal companies to have a phase-out plan by according to these deadlines.	Social and human rights commit-ments included in the policies for the Metals and Mining Sectors. For example, Impact on local communities (physical and economic population displace-ments).[16]
Crédit Agricole Amundi & Pioneer Investment	Asset Manager	Exclusion of all coal developers from 2021.	Exclusion of mining and power companies above 25% of revenues from thermal coal but with large exceptions and using the wrong metric revenues instead of power generation.	Exclusion of mining companies above 100 Mt of coal production per year with some large ex-ceptions.	Full phase-out strategy by 2030 in the OECD and 2040 in the rest of the world. By 2021, a requirement for coal companies to have a phase-out plan by according to these deadlines.	No ***

* BHP Group Ltd/BHP Group Plc has not been excluded despite extracting more than 20 Mt thermal coal per annum. Access at: https://www.nbim.no/en/the-fund/news-list/2020/exclusion-and-observation-of-coal-companies/

** "Evaluation based on an overall assessment of relevant considerations including, inter alia, emissions and emission intensity, forward-looking plans and frameworks on climate." Access at: https://www.regjeringen.no/en/aktuelt/styrker-og-klargjor-de-etiske- retningslinjene/id2640405/

*** Has taken part in PRI's Just Transition work. Source: Amundi - Responsible Investment Policy 2019.

Financial Institution	Type	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
Allianz[17]	Asset Owner	Exclusion takes place if companies fail to present a credible transition strategy. Companies that directly or indirectly (through entities they control, minimum of 50% stake) breach the following thresholds: 1. Planning more than 0.3 gigawatts (GW) of thermal coal capacity additions. 2. Whether a company is planning and/or building additions of more than 0.3 GW in coal power capacity, e.g. allowing retrofitting or refurbishment of existing plants, but to avoid the building of new plants.	Exclusion of companies above 30% of revenue, or power generation from thermal coal with lowering of threshold over time (i.e. 25% as of December 31, 2022). Proprietary investment portfolio to fully phase out coal by 2040 at the latest.	No	Proprietary investment portfolio to fully phase out coal by 2040 at the latest with lowering of exclusion thresholds over time and exclusion of coal plant developers.	No
Allianz Allianz Global Investors	Asset Manager	No	No	No	No	No
Allianz PIMCO	Asset Manager	No	No	No	No	No
Deutsche Bank Deutsche Asset Management	Asset Manager	No	No	No	No	No

Financial Institution	Type	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
Deutsche Bank DWS	Asset Manager	No	No	No	No	No*

The full list of investors can be found at the end of the report (Annex II)

Largest investor: BlackRock

At the end of 2019, BlackRock held shares or bonds in every European coal company included in this report. **€7.0 billion** in total, exceeding the amount held by all the investors included in the 'Exposed Eight'. BlackRock is the world's largest asset manager with €5.8 trillion** in assets under management as of March 31st 2020 (decreasing significantly due to COVID-19). It is therefore unsurprising that BlackRock emerges from the data as the most significant investor in European coal.

BlackRock's holdings in the major European coal companies are not only significant in absolute terms but it is also a major investor in relative terms (see figure 3). Given that BlackRock has a significant global presence, its local offices are involved in Europe its London and Frankfurt offices are central (see figure 4). Put differently, BlackRock's decisions on how it uses – or doesn't use – its share- and bondholder rights can determine whether climate-related shareholder initiatives pass or not.

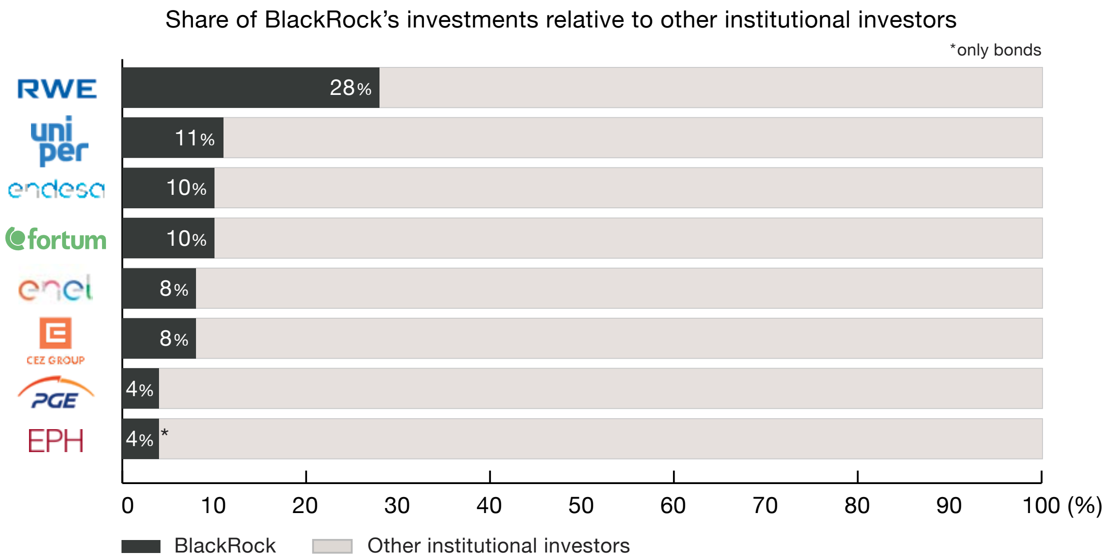

Figure 3: Share of BlackRock's investment to RWE, Uniper, Endesa, Fortum, ČEZ, Enel, EPH and PGE relative other institutional investors***. The holdings in EPH are bonds as the company is not listed on any stock exchange. Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo.

* Part PRI working group on a Just Transition in 2019

** $6.5 trillion

*** The data excludes, ie. national governments, municipalities, private individuals (see the chapter on Methodology). ČEZ, Enel, Fortum and PGE have also governmental shareholders.

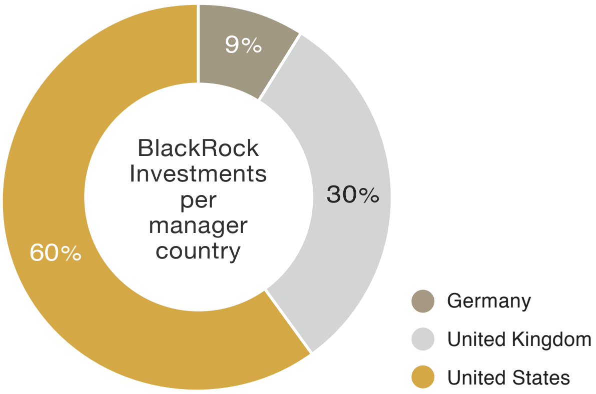

Figure 4: BlackRock's European coal related investments mostly originate from the US, the UK and Germany.

Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo

BlackRock has both active and passive investment strategies, accounting for ¼ and ¾ of assets under management (AUM) respectively. This is important to appreciate because the company is often characterised as primarily a passive investor. Eschewing the traditional "active" role of the fund manager, passive funds track market indices algorithmically without needing individual managers to select the contents of a portfolio. This is done primarily for cost-cutting reasons, which explains why the passive funds are on the rise and account for an increasing share of trading activity, and have surged in market share.

Since indices are generally made of a list of stocks representing a segment of the market, there is a very high likelihood that coal companies are part of the investment portfolio. Influence Map's research confirms that the Thermal Coal Intensity (TCI) of BlackRock's funds differ: its passive funds had a higher TCI than its active funds[18]. Therefore, without direct management discretion and with a very thinly resourced corporate engagement team*, "In the past, numerous stakeholders have voiced concern about the silent blessing BlackRock has given to coal companies' lack of progress on phase-out plans. This silence has provided cover for status quo on coal finance."

Recently, BlackRock has taken the first tentative steps in addressing coal in its portfolio. It announced in January that by the middle of 2020 it would exit certain investments, a process which has now been completed[19].

- Companies with 25% or higher revenue from thermal coal production will be excluded from all actively managed funds.
- Thermal coal will be out of all Environmental, Social, and Governance (ESG) funds.
- No direct thermal coal investments through alternatives business at same exclusion (25% revenues from thermal coal production).

According to analysis, the new policy affects less than 20% of the coal industry[20] and leaves out passive investment. BlackRock's policy for actively managed investments only covers businesses that sell thermal coal and not the companies that actually burn coal. Also out of the policy's scope are diversified coal companies and developers of new coal infrastructure. This means that, even if they do mine their own coal, the European utilities are not affected by the policy. BlackRock is the biggest shareholder of the world's most significant lignite miner and Europe's biggest CO2 emitter, RWE[21] (see also Figure 3).

In 2020, BlackRock appears to have turned a new leaf on its engagement practices. On January 9th, the firm joined the Climate Action 100+, a major investor effort to pressure the biggest polluting companies. Prior to this, as has been found in several studies tracking its voting results[22,23], BlackRock has been found to largely ignore its responsibility in engaging with corporate giants. The experience of the AGM season 2020 suggests that the asset manager is still not exercising its shareholder powers to the full extent to push companies into needed transition (see Box 1 below). BlackRock voted against the company management when it considered progress insufficient, including Uniper, Fortum, ČEZ and PGE, but it did not support climate-related initiatives.

* Its investment-stewardship team, although the largest among fund managers, numbers less than 50, meaning each member is responsible for as many as 500 companies.

BlackRock's engagement litmus test: Fortum's Annual General Meeting (AGM)

In the 2020 Annual General Meeting (AGM) season, only one climate-related shareholder initiative was tabled for the focus utilities AGMs. The World Wildlife Fund (WWF) Finland submitted a climate risk shareholder proposal for voting consideration at Fortum's 2020 annual meeting, asking the company to "Include Paris Agreement 1.5-degree Celsius Target in Articles of Association". The proposal included an implicit request, as part of the supporting statement, to phase out coal in the geographies where Fortum and Uniper operate coal plants.

BlackRock has been transparent in its voting, by publishing its stewardship practices[24]. Therein, it is shown that BlackRock voted against the approval of the board and president's discharge because the "decision by the board to significantly increase its exposure to coal energy generation (by acquiring Uniper) calls into question the board's integration of climate risks into its corporate strategy". However, it also abstained from voting on the abovementioned shareholder resolution.

Based on the empirical evidence, a much more pronounced ramp-up in the ambition and forceful stewardship will be necessary to achieve the required changes in the coal sectors.

Box 1: BlackRock's engagement with European coal utilities during the AGM 2020 season.

European creditors

For this research, the time period for the financial data for loan and underwriting deals by creditors is November 2018 - December 2019. The 2019 Fool's Gold report derived its cut-off year from the UN Paris Climate Agreement that was signed in 2016. Since then banks should have drastically recalibrated the financial relationships vis-a-vis their corporate clients. In order to capture those financial institutions that have most actively avoided their responsibilities as good corporate citizens, this report brings the assessment period forward to the second significant milestone in climate governance: the release of the IPCC special report on 1.5 degrees Celsius global warming (see chapter 3 for more information).

Therefore, this document uses the IPCC 1.5 degrees Celsius special report as a crucial point in time that confirmed the necessary plummeting coal trajectory. Any financial transaction benefitting the coal industry thereafter has no excuse that could be explained with the time needed for the financial institution to prepare themselves.

On the creditor side, **UniCredit** is the most significant bank providing **€2.8 billion** in loans and underwriting, similarly to last year's findings. The bank has published a new coal policy but, as can be seen from the data in table 2, the policy has not stopped controversial deals from taking place. The main loophole of the policy protects existing clients by only asking them to be in line with Nationally Determined Contributions (NDC) of the countries where their operations are located. The Czech-owned energy group EPH, infamous for buying up old coal assets all over Europe, is UniCredit's existing corporate client. Since EPH operates in countries where the NDCs are largely inadequate* to meet the Paris Agreement, the exclusions are not enforced. Therefore, the data confirm that the bank's new coal policy has limited real life impacts on the European coal companies.

BNP Paribas is the second most significant financier of these companies, with **€2.1 billion**. In July 2020, the bank introduced a new coal-fired power generation policy[25] for company-level financing with substantial exclusions affecting the focus utilities, in line with its thermal coal exit timeframe by 2030 in the EU/OECD countries and by 2040 in the rest of the world introduced in May 2020[26]. In 2020, its power clients planning new coal capacities or without an exit strategy that is consistent with the timeline will be gradually excluded - even when a subsidiary is concerned. Furthermore, it discourages coal acquisitions by stating that no capacity additions to power

* Climate Action Tracker ranks the NDCs of all European countries as 'insufficient'. Access at: https://climateactiontracker.org/

portfolios are allowed, including development or commissioning of coal-fired power plants. However, it does not formally require from clients the closure of companies' coal assets, which can lead them to be sold instead. Based on the information compiled in table 6, this policy could lead to the exclusion of ČEZ, Fortum/Uniper, EPH and PGE already this year. BNP Paribas will conduct a review in 2021 to assess whether the clients are in line with the bank's set deadlines, followed by an exclusion if that is not the case. In 2021, we expect RWE to be excluded if they have not brought their coal exit date by 2030 and possibly Enel later without sharpened plans. An annual review of the companies' strategies to exit coal will be conducted and companies that fail to comply will be excluded - depending on the outcomes of the annual coal exit strategy reviews.

Barclays follows in third place with **€1.7 billion**. The bank has been under relentless public and investor scrutiny for being Europe's most significant fossil fuel financier[27,28]. Despite Barclays new restrictions, the financial support to coal remains significant. In March 2020, Barclays announced a new coal policy laying out that it prohibits financing to clients with more than 50% of their revenue from thermal coal as of 2020, transitioning to 30% as of 2025, and to 10% as of 2030. The policy is designed to apply to the entity being financed, whether transacting with a group parent, subsidiary or joint venture. Due to the unprofitability of coal in Europe any revenues-based metric is unlikely to be effective. Both Fortum/Uniper and Enel have reported that the coal share of revenue is only approximately 2-4% (see table 6). Although Barclays detailed the long-term coal phase-out pathways, it also indicated that no meaningful short-term exclusions would be introduced in the next five years as the next 'tightening up moment' of the threshold takes place only in 2025. In short, the new policy cemented the very low level of ambition and therefore remains toothless in the context of European power utilities. As an immediate step, the thresholds should be significantly lowered in the short term and pegged to the coal share of production instead of revenues for coal power production. Barclays should also ask its coal-heavy clients to publish credible transition plans aligned with the Paris climate goals. If the plans do not align with the 2030/2040 coal phase-out timelines the clients should be excluded without delay.

Société Générale comes fourth with **€1.3 billion**. In July 2019, the French bank committed to exit the thermal coal sector by 2030 for companies with assets in the European Union and the OECD, and by 2040 in the rest of the world. Based on the short-term criteria, few if any of the European coal utilities mentioned in this report are excluded from its financial services. This is supported by the results of table 2 showing that loans and underwriting have taken place since the introduction of the 2019 policy, including loans to and underwriting of EPH. Société Générale should have mostly excluded, or considered excluding against additional criteria, companies whose coal share of revenue exceeds 50%. EPH, a regular client, has a very high coal share of power production, as well as revenues*, and is most likely classified as an "in transition company"** that should be divested from if it "has plans to expand their (sic)... coal-fuelled power infrastructure" or "do not have an explicit corporate strategy consistent with becoming a diversified company by 2025". Given that 94% of the 4,000 MW of the EPH capacity added in 2019 is fossil fuel-based, including 1,800 MW in new coal[29], it is possible that Société Générale has broken its own coal policy through its dealings with EPH.

In July 2020, the bank announced that a new thermal coal policy will be adopted[30] revealing its the high level updated exclusion criteria (further details are not available at the time of the writing). It will henceforth exclude companies from most financial services that: a) generate over 25% of their revenues from the thermal coal sector and when no credible exit strategy is provided; b) develop new mining, power plant or infrastructure projects related to thermal coal. However, they will provide financial services "dedicated to the energy transition" irrespective of the coal exposure and there are no requirements for companies below the threshold. It is unsure how EPH and other companies will be impacted by this.

* According to the Global Coal Exit List, EPH's coal share of revenue is more than 30% and coal share of production (based on capacity) 50%.

** Defined as either a) to have between 30% and 50% of their revenue linked to the thermal coal sector; or b) to have more than 50% of their revenue linked to the power sector and between 30% and 50% of their power capacity fueled by coal.

Table 2: How watertight are the coal policies? The financial data have been collected until February 2020 since the adoption of the latest coal policy of the bank. Barclays and BNP Paribas have been left out since the banks have updated coal policies in March and July 2020, respectively. Société Générale announced a new policy in July 2020, at the time of writing. Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo.

Bank	Date of the latest coal policy	Value of loans since the last coal policy	Value of underwriting deals since the last coal policy
UniCredit	November 2019	€114 million (EPH) €36 million (Enel)	N/A
Société Générale	July 2019	€57 million (EPH) €638 million (Fortum) €36 million (Enel)	€100 million (EPH) €170 million (Enel)

Table 3: Heat map for the quality of the coal policies of **creditors.** The assessment matrix is based on the thermal coal recommendations by Europe Beyond Coal and Reclaim Finance[31].

Financial Institution	Projects	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
UniCredit	Exclusion of thermal coal mines and coal plants, including retrofits.	Exclusion of some coal developers based on relative share of coal revenues/ capacity.	Exclusion of mining companies above 25% of revenues from coal, and power companies above 30% of coal capacity, and other criteria for new clients, but large exceptions based on NDCs and wrong metric used with capacity instead of power generation.	No	No	No
BNP Paribas [32,33]	Exclusion of thermal coal mines, and coal plants (including retrofits) and infrastructure.	Exclusion of coal plant developers.	Exclusion of mining companies above 50% of revenues from coal. No new clients that derive more than 25% of its revenues from coal-fired power generation.	No	Phase-out of the coal power and mining sector in the EU/ OECD by 2030 and worldwide by 2040 with mandatory requirement for companies in this sector to have an exit plan aligned by the end of 2021 and exclusion of all coal plant developers.	No[34]

Financial Institution	Projects	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
Barclays [35]	Mostly a good policy with some exceptions given to retrofitting of plants. No project finance to enable the construction or material expansion of coal-fired power stations. No project finance for the development of greenfield thermal coal mines. No general corporate financing that is specified as being for new or expanded coal mining or coal-fired power plant development.	No	Financing to clients with more than 50% of their revenue from thermal coal as of 2020, transitioning to 30% as of 2025, and to 10% as of 2030. Using the wrong metric of revenues instead of power generation. The exclusions are effective extremely late.	No	No	Yes. The policy includes intention to provide finance to help train and upskill current and future work-force. It is unclear whether just transition is used to legitimise extended timelines for the high carbon industry, mainly in the context of Canadian oil sands. Just transition should never be used to justify unduly prolonged phase-out timelines*.
Société Générale [36,37]	Strong policy on exclusions to thermal coal projects. No finance to thermal coal extraction, transport or transformation, or coal-fueled power production units and associated infrastructure.	Exclusion of coal plant developers.	Exclusion of companies with more than 25% of revenues from thermal coal. Includes large exceptions for companies without a credible exit strategy from the coal sector. Furthermore, the wrong metric since revenues instead of generation is used.	No	Phase-out of coal mining and coal power by 2030 in EU/ OECD and 2040 worldwide, and exclusion of all coal developers. However, phase-out commitment only for lending, not underwriting.	No

The full list of creditors can be found at the end of the report (Annex II)

* Excerpts from the 2019 ESG report, "...we take responsibility for asking our clients the right questions about their response to the displacement of individuals from the security of employment; particularly those from more vulnerable groups." and "We are committed to supporting this transition by identifying and financing the deployment of affordable, sustainable and economically feasible technologies that provide energy security over the long term, which is crucial for both developed and developing economies."

Significant non-European creditors: Japanese megabanks

The data reveal another significant country bankrolling European coal utilities outside of domestic and American financial institutions: Japan. The Japanese megabanks have provided funding in the form of loans and underwriting associated with five out of eight coal-reliant power utilities highlighted in this report. If we include all financial institutions within and beyond Europe, **Mizuho Financial Group with €1.0 billion, Sumitomo Mitsui Financial Group (SMBC)** with **€0.6 billion** and **Mitsubishi UFJ Financial Group (MUFG)** with **€0.3 billion** are the 9th, 19th and 29th most significant creditors in European coal. In total, the Japanese megabanks have financed European coal corporations with **€1.9 billion** between November 2018 and December 2019*.

The SMBC Group demonstrates a relatively Central and Eastern European (CEE) client base where the power utilities' coal production can be extremely high. EPH is particularly problematic since the utility's business model revolves heavily around acquiring unwanted coal plants in Europe and as an unlisted company it does not have to comply with the same reporting requirements as its peers.

The financial links between Japan's three megabanks and European coal power utilities

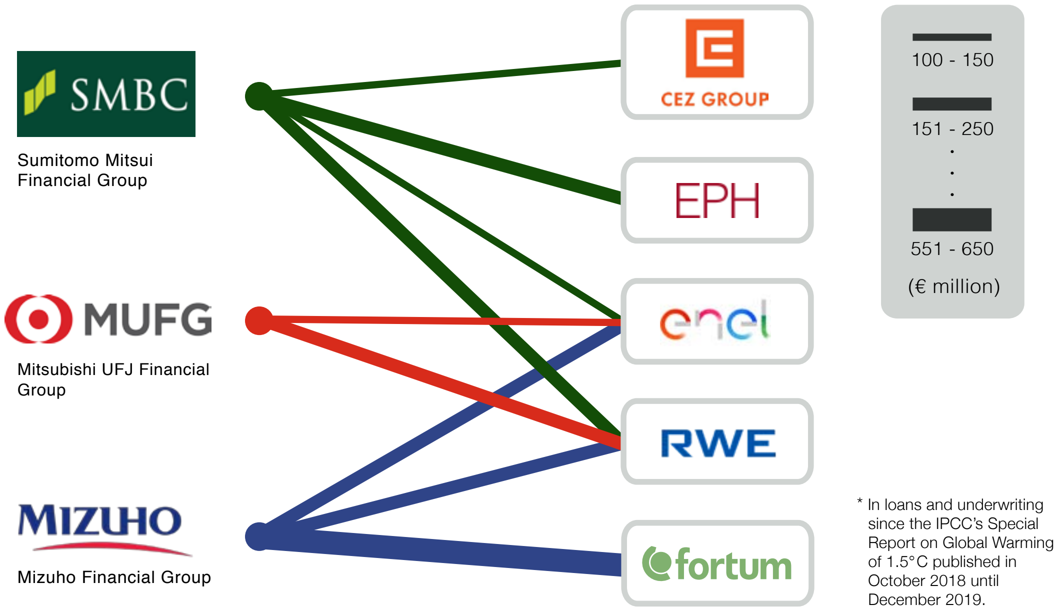

Figure 5: Mizuho Financial Group, Sumitomo Mitsui Financial Group and Mitsubishi UFJ Financial Group (MUFG): loans and underwriting in European coal from October 2018 until December 2019. Amounts in euros. Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo

Japanese megabank	Number of loans	Number of underwriting deals	Total
Mizuho	8 (€937 million)	1 (€91 million)	9 (€1028 million)
SMBC	6 (€274 million)	3 (€291 million)	9 (€565 million)
MUFG	2 (€185 million)	2 (€114 million)	4 (€299 million)

Table 4: Break-down of coal deals associated with the Japanese megabanks. Based on the break-down of coal deals, the data reveal that most of the deals are loans.
Source: Bloomberg Terminal and Thomson EIKON. Data compiled by Profundo

* The historic exchange rate of EUR to JPY 31.12.2019 was 121.97512. Therefore, the financial deals totaled approximately ¥231.75 bn.

The Japanese megabanks have published and updated their coal policies in the recent years, with newest revisions in April and May in 2020 restricting new project finance to the coal sector. The new policies are assessed below. Since the European utilities are mainly supported through corporate finance, the recently introduced coal policies do not have material impact on them as they only focus on restricting coal project finance.

Table 5: The assessment of the coal policies of the Japanese megabanks.

Financial Institution	Date of the latest coal policy	Projects	Developers	Relative threshold (% of capacity, production or revenue)	Absolute threshold (Mt/GW)	Phase-out / engagement	Just transition
Mizuho	15.4. 2020[38]	No new coal power projects with notable exceptions*. All loans for coal power projects ended by 2050[39].	No	No	No	Commits to reduce the outstanding credit balance for coal-fired power generation facilities from the FY2019 amount (around JPY300 billion) by 50% by FY2030, and achieve an outstanding credit balance of zero by FY2050.	No
SMBC	16.4. 2020[40]	No new coal power projects with notable exceptions**.	No	No	No	No	No
MUFG	(13.5. 2020)[41]	No new coal power projects with notable exceptions***.	No	No	No	No	No

* The policy has three main exceptions: 1. It excludes businesses to which Mizuho is already committed as of the start of this policy. 2. Where a proposed coal-fired power plant is essential to the relevant country's stable energy supply and will contribute to reduction of greenhouse gas emissions by replacing an existing power plant, Mizuho may provide financing or investment for the project. 3. Mizuho will also continue to support development of innovative, clean, and efficient next-generation technology that will contribute to the expansion of sustainable energy, as well as other initiatives for the transition to a low-carbon society.

** Exceptions may be considered for projects which use "environmentally friendly" technologies such as USC pressure and forprojects which have provided support before the revision. SMBC also supports the development of technologies which contribute to carbon recycling such as CCS.

*** Exceptions may be considered where MUFG will take into consideration the energy policies and circumstances of the host countries, international standards such as the OECD Arrangement on Officially Supported Export Credits, and the use of other available technologies when deciding whether to provide financing. MUFG also supports the adoption of advanced technologies for high efficiency power generation and Carbon Dioxide Capture and Storage (CCS) technologies which contribute to a reduction in the emission of greenhouse gases.

As the European coal exit accelerates it is likely that those utilities that can no longer access capital markets will increasingly seek finance from further afield. This is why, to ensure that the entire market disincentivises business models that are not rooted in a timely coal phase-out, coal policies must be tackled globally. In Japan, unless the megabanks adopt stricter policies to cover corporate finance, the European coal sector is likely to enjoy financial support in the future too. This would make Japanese megabanks fall behind their peers, risking reputational damage, which is already materialising in shareholder revolts. In June 2020, the first-ever climate shareholder proposal received massive international investor backing. At Mizuho's annual general meeting, 34% of shareholders, worth well over US$500bn, were voting for the proposal[42,43]. This included the support of ISS and Glass Lewis, the two prominent proxy advisory services.

The insurance sector

The insurance sector plays a critical role in allowing coal power generation and mining operations to continue beyond 2030 in the EU. In fact, before a developer can even break ground on a new coal mine or thermal power plant, it must secure insurance for its projects. A patchwork of insurance and reinsurance agreements protect developers against certain physical and transitional risks related to coal, allowing them to delay phase-outs of existing projects.

Since 2017, many European insurers have announced commitments that limit their underwriting services to coal utilities or restrict coal financing on the project level[44]. Global insurers have also adopted coal investment restrictions, which is notable given the size of capital flows in the sector[45]. Even now, many major insurers have limited policies or no policy at all*.

This report does not present financial results for coal insurance and reinsurance, nor does it analyse the breadth of the financial institutions' policies for insuring coal companies. This is partly due to the lack of transparency and data. The sector is, however, at the epicenter of coal finance.

* Lloyd's of London market, Talanx and PZU, for example.

2. FOCUS UTILITIES

Coal-related emissions are steadily decreasing

Before the COVID-19 crisis hit, the European coal utilities were already on their way out of coal. In the EU, a fall of one quarter in emissions took place in 2019 alone[46] and especially the use of hard coal has dropped. The pan-European trend corresponds well with the coal phase-out pathways of the eight focus utilities in the same year. Between 2018 and 2019, the power utilities featured in this report lowered their emissions by nearly 25% going from 334 Mt down to 252 Mt year-on-year (see figure 6 and 7). In Europe, some of the company level "phaseout" has been achieved by selling rather than decommissioning plants, which in itself does not reduce emissions since they just move from one company portfolio to another. However, since some of the transactions have been between the eight focus companies our numbers reflect real world closures fairly accurately. Out of the focus power utilities, Endesa's annual reduction in coal was approximately a whopping 70% drop between 2018 and 2019*.

It should be noted that the data excludes non-European coal assets and does not reflect the emissions that would be generated with alternative high-carbon fuels such as gas or biomass**. Regrettably, Fortum/Uniper has just installed a new coal power plant in Germany, and PGE is still developing more

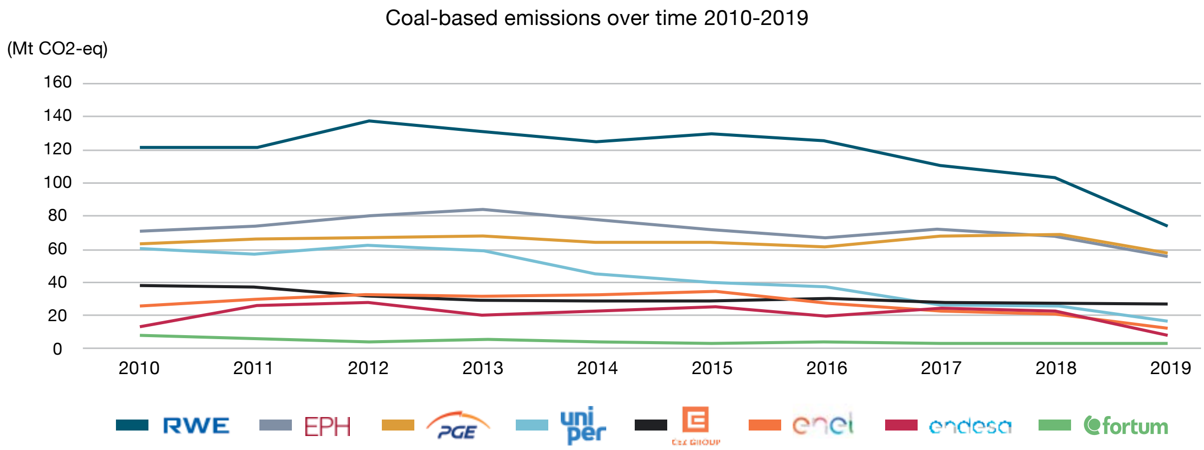

Figure 6: The annual emissions of the eight focus utilities since 2010***.
Source: own analysis. Data retrieved from Europe Beyond Coal coal plant database (accessed May 2020) and The European Union Transaction Log (EUTL).

* Peninsular Spain coal generation in 2019 was 1.532 GWh (-69.2% with respect to 2018) and imported coal 4.115 GWh (-72,5% with respect to 2018).

** Biomass is currently zero accounted under the EU ETS, while the immediate emissions are comparable to coal. The emissions are, in theory, accounted for under the LULUCF regulation. In practice, a considerable amount of biomass energy use goes unaccounted under the LULUCF Regulation as 1) the amount of biomass used for energy prior 2009 is considered carbon neutral and 2) allowing increased harvesting into forest management reference levels hides also increased biomass use, which is then considered carbon neutral. See the analysis from Fern conducted in April 2020 showing the extent of forest harvesting plans by the EU states (National Forestry Accounting Plans): Fern. (May 2020). Press release: EUROPEAN COMMISSION FACES MAJOR HURDLE TO PROTECT AND RESTORE FORESTS. Access at: https://www.fern.org/news-resources/european-commission-faces-major-hurdle-to-protect-and-restore-forests-2148/

*** The 1.1 GW power plant Datteln 4 owned by Fortum/Uniper came online 30.5.2020 with annual emissions that can be up to 8.4 Mt depending on the operating hours. At present, the Turów Power Plant owned by PGE is in the final phase of construction of a modern power unit with a capacity of approx. 500 MW. Furthermore, PGE is currently expanding Turow mine and ČEZ is planning to extend the operation of its Bílina lignite mine, which will indirectly contribute to coal emissions. ČEZ is also planning a new CHP lignite unit planned to come online 2022. The graph does not include the emissions data of Anllares coal plant, which is 33% owned by Endesa and the remaining 66% is under ownership of Gas Natural Fenosa.

coal capacities. This is not yet reflected in the 2019 emissions data (see table 6 for details). Despite UN secretary-general António Guterres' call for the 2020s to be a "decade of action" calling for an end to new coal-fired power stations after 2020 the utilities are going ahead with their plans. Therefore, new coal plants brought online in 2020, or further in future, will show up as additional coal-based emissions. However, the European coal fleet as a whole is expected to further shrink.

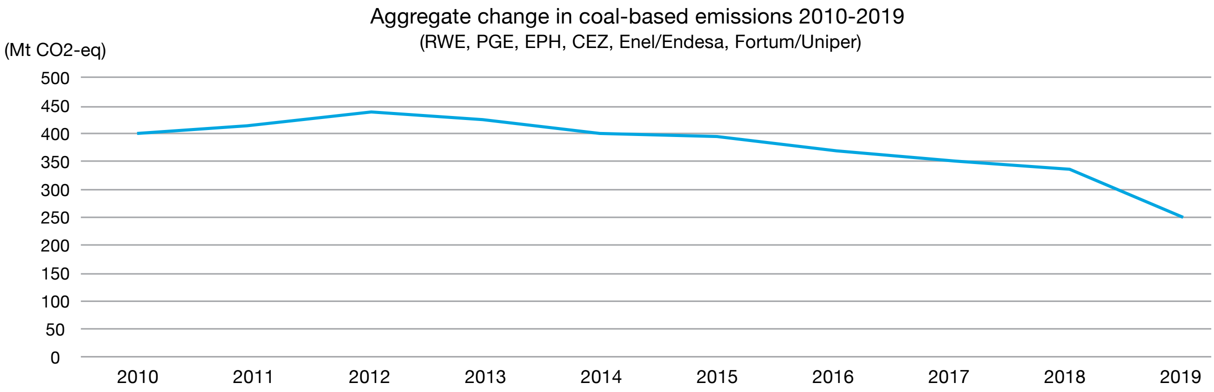

Figure 7: The aggregated annual emissions of the eight focus utilities since 2010 showing a downward trend. The emissions only cover the EU and UK. The graph represents only the companies' coal emissions - not the overall emissions.
Source: own analysis. Data retrieved from Europe Beyond Coal coal plant database (accessed May 2020) and The European Union Transaction Log (EUTL).

Focus utilities

While the overall phase-out rate is promising, the decarbonisation plans of the coal utilities indicate that the coal phase-out will not be achieved by 2030. This is particularly acute in three EU countries: Poland, Germany and the Czech Republic. Several of those utilities located in these countries have coal expansion plans (see table 6 and Box 2) and they all still operate a sizable coal fleet. Therefore, drastic shifts in company strategy, capital allocation, technological deployment and accelerated coal decommissioning plans are still a necessity for the utilities in these geographies.

However, closing coal plants is only the first step and does not address the wider issue of the necessary transition in the power sector. While the Western European governments have shown remarkable political will in introducing coal phase-out timelines - with the exception of Germany, whose government has failed to adopt a Paris compatible coal exit timeline - the job is not yet done. In some of those countries where coal phase-out is well underway there is a genuine threat of coal-to-gas and coal-to-biomass[47] conversions, including in Spain and Italy. It is estimated that in Europe gas replaced around half of the coal, solar and wind the other half[48]. Many utilities also bank on hydrogen as a growth area while the genuinely sustainable hydrogen economy is in its infancy and it is unclear what its role will be. The success of the coal phaseout is therefore also dependent on the next stages of the transition since bad investment decisions can lead to stranded assets and infrastructure lock-in. It is unclear whether the power utilities are able to harness renewable energy, while drastically limiting the use of biomass, for their transition.

Please note that some of the focus power utilities mentioned in this report have adopted new business strategies that increasingly phase out coal. This is most relevant in the context of Enel and Endesa. However, because the data only reflects end-2019 and early-2020, many of these developments had not taken place.

Utilities coal operations outside of Europe

Several European utilities operate coal plants outside of Europe, therefore it is only consistent to expect the power utilities to include the international power production in their coal phase-out plans. Out of the eight power utilities, three have coal generation activities outside of Europe: Enel, Fortum and Uniper. All non-European locations where coal generation takes place fall within the same timeline for coal phase-out: by 2030 (see chapter 3 for the climate science basis).

Enel's extra-European coal power generation mostly takes place in Latin America* after it sold its local production capacity in Russia. In Chile, Enel's remaining plants are Bocamina 1 and 2 (which received rather controversial media coverage due to their health impacts on the locals[49]). It was announced in late-May 2020 that both plants are to be closed in the next few years[50]. This leaves Enel with one country without a timely coal exit by 2030 commitment: Colombia**.

In Russia, Fortum currently operates the Chelyabinsk combined heat and power plant using natural gas and coal, as well as the Argayash combined heat and power plant using mainly coal. When challenged on its Russian coal production the outgoing CEO, Pekka Lundmark, did not offer any timeline for the coal phase-out. In fact, the high carbon intensity of Fortum's coal and gas operations have caused the company to reject the possibility of a Science Based Target (SBTi) – which would enforce a IEA-compatible decarbonisation pathway. The company stated that because any "SBTi approved target must cover at least 95% of a company's direct and indirect greenhouse gas emissions, and large scale reduction in using fossil fuels – natural gas in particular – would not be possible in Russia in the short term"[51].

Fortum's subsidiary, Uniper, also has Russian coal fleet through its own subsidiary Unipro, which runs the Berezovska lignite plant that has an estimated 7 Mt in annual emissions***.

Based on Uniper's own reporting, SO2, NOx and dust emissions are all several times higher in Russia than in other parts of the world[52]. Uniper has not included Russia in its carbon neutrality target. More than 80%[53] of Fortum's emissions and more than 50% of Uniper's come from Russia[54] (excluding Scope 3).

Selling coal assets instead of closing them

Regrettably, the years 2019 and 2020 have demonstrated that selling coal assets has become a commonplace strategy for power utilities to "green" their portfolios. Based on previous research by Europe Beyond Coal, it is clear that none of the sales since 2013 have resulted in any emissions reductions[55]. Therefore in most cases such sales present a counterproductive option.

Since 2019, several acquisitions and sales have taken place involving the focus utilities. In February 2019, Enel sold all of its Russian coal generation to JSC Kuzbassenergo (3.8 GW in total). EPH saw through the acquisition of the Kilroot and Ballylumford power stations, both located in Northern Ireland. In July 2019 EPH bought all of Uniper's French assets. It also bought Uniper's remaining stake in the Schkopau power plant, which it will take over in October 2021.

It is possible that more sales will take place. In 2021, Enel will likely complete its sale of the remaining 50% of the Novaky coal plant in Slovakia to EPH. Fortum has repeatedly hinted at sales since the now completed takeover of Uniper was announced.

The sale of coal power plants to different owners brings no real benefit and is instead an act of greenwashing that ultimately goes against the interests of responsible financial institutions.

* Chile is an OECD country and Colombia officially became the 37th member of the Organisation on 28 April 2020.

** Colombia officially became the 37th member of the Organisation on 28 April 2020.

*** Based on the answers given by the senior management at the Uniper AGM in May 2020. The CEO Andreas Schierenbeck disclosed that exact emissions from hard coal and lignite when including Russia are 19 Mt. Uniper's European coal emissions are currently 12Mt.

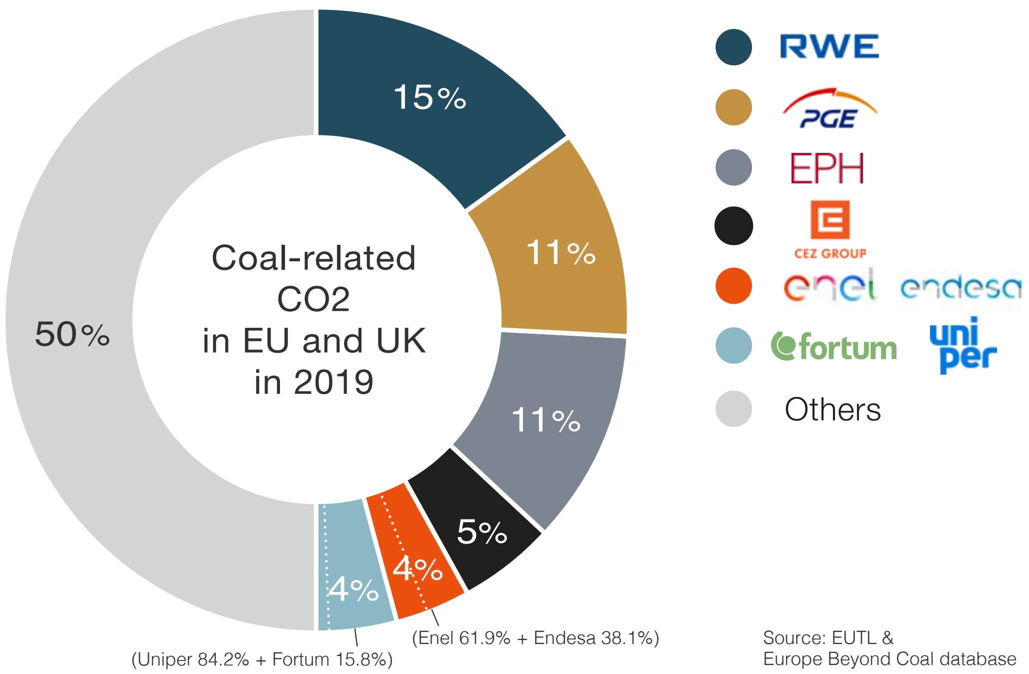

Figure 8: Coal-related emissions in the EU in 2019. The graph does not include the emissions outside of the EU produced by EU-based companies, nor does it include sold emissions to an operator other than EPH. The following future emissions are also not reflected since the plants were not yet in operation in 2019: ČEZ's new Mělník CHP unit (will be brought online in 2022), PGE's Turów Power Plant (date of commissioning October 2020) or Fortum/Uniper's Datteln 4, which was introduced into the grid 30.5.2020 (and could henceforth have up to 8.4 Mt annual emissions depending on the operating hours).

'Scope 4 emissions' – the harmful impact of the lobbying practices

Many power companies are blocking or significantly weakening effective climate policy, either directly or via industry association memberships. This is why lobbying practices need to be scrutinised by the financial institutions to ensure alignment with the Paris Agreement.

In 2019 and 2020, there have been several cases of dubious political tactics deployed by the focus utilities, which worryingly illustrate how these companies' lobbying practices concretely harm the European coal phase-out. One of the most blatant cases involves the German utility Uniper, which operates coal plants in the Netherlands. In 2019, Uniper started preparing an investor-state dispute settlement mechanism (ISDS) case against the Dutch government allegedly seeking a reported €1 billion in compensation under the Energy Charter Treaty (ECT). The huge amounts in payouts a foreign investor can claim under ISDS has a demonstrable chilling effect on environmental policies and can thereby derail the coal phase-out plans as national governments fear retaliation.

Table 6: An overview of the eight focus utilities' emissions footprints and the quality of coal and decarbonisation plans.

Source: see footnotes. In some cases own analysis and calculations based on the several primary sources.

1. Annual emissions 2019 (scope 1-3)
2. Coal exposure[56]
3. Status of decarbonisation plans including a 2030 coal phase-out
4. Quality of transition (coal-to-what?)
5. Coal expansion (including acquisitions)

RWE (Germany)	1	88 Mt.[57] Scope 2 and 3 not reported*.
	2	Coal share of production: 40.8%. Coal Mined: 64.8 Mt. Installed coal capacity: 14GW.
	3	Coal phase-out by 2038. An emissions reduction target of 70% by 2030 from a 2012 baseline and to be net-zero by 2040[58].
	4	Coal to biomass in the Netherlands, gas and new investments in other renewables. Hydrogen is part of the growth strategy. Existing renewables capacity at 9.2 GW and pumped storage & batteries at 2.4 GW.
	5	No new coal plants or mines under construction. However, continuous expansion of mines and displacement of villagers still taking place (Garzweiler, Hambach[59]).
PGE (Poland)	1	60.1 Mt.[60] Scope 2 and 3 not reported.
	2	Coal share of production: 89%. 43.3 Mt lignite extracted in 2019 from three mining operations. Installed capacity: 13.55 GW[61],
	3	No coal exit announced. PGE anticipates that the emissions intensity of its power generation will drop from 0.98 tCO2/MWh in 2013 to 0.78 tCO2/MWh in 2025 due to changes in the generation mix. Officially, PGE has voiced opposition to a 2050 net-zero target without significant financial support[62].
	4	Coal to biomass. Coal to gas especially for CHPs and in some coal TPPs (i.e Dolna Odra). Investing in PV expansion and wind farms. Also developing offshore wind projects[63].
	5	New coal capacity recently commissioned at Opole. An additional 490 MW at Turów under construction (planned operation in 2020). New lignite mine planned at Złoczew and mining past 2030 planned at the Turów and Szczerców existing lignite mines[64].
EPH (Czechia)** LEAG (Germany) with 50% ownership	1	18 Mt.[65] (EPH Group consisting of EPIF and EPPE, excluding LEAG and Ergosud). 56 Mt*** LEAG's coal emissions. 0.87 Mt Ergosud[66] (50% ownership, no coal assets). Scope 2 and 3 not reported.
	2	Coal share of installed capacity (excl. LEAG): 31%**** However, according to the Global Coal Exit List, EPH's coal share of revenue is more than 30% and coal share of production (based on capacity) 50%., 4 GW. LEAG's coal share of production and revenue: 100%. Installed capacity for LEAG: 7.6 GW (only lignite). The East German brown coal company MIBRAG, also owned by EPH, produces up to 20 Mt. lignite per year that is burned by Lippendorf and Schkopau, for example[67].
	3	No company level coal exit announced. The coal phase-outs mandated by the national governments apply.
	4	Biomass highlighted as central in EPH's sustainable generation strategy. Lynemouth plant converted into biomass. Gas makes up a significant portion of existing assets.
	5	Several coal acquisitions from other operators, including Kilroot and Ballylumford in Northern Ireland, French coal assets and Schkopau from Uniper in 2019 and 2020.

* It was confirmed that scope 3 will be analysed in future at the 26.6.2020 RWE AGM. The recording is available at: https://live.rwe.com/eUUh4jxnne?ln=en

** 33% ownership of Slovenské elektrárne (Slovakia) not considered as EPH is not the majority owner.

*** Schwarze Pumpe, Jänschwalde, Boxberg and Lippendorf.

**** Out of EPH's total installed capacity (13 GW) 24% was hard coal and 7% lignite. Access at: https://www.epholding.cz/en/presentations/

CEZ GROUP (Czechia)	1	26.07 Mt. Scope 2 and 3 not reported.
	2	Share of coal: 45% of capacity and 39% of generation. Coal mining share of revenue: 2%. Overall revenues are less than 20% of total. Mined: 20.4 Mt of lignite. Installed capacity in coal: 6.5 GW[68].
	3	CEZ pledges a 50% reduction in installed coal by 2025 and full exit by 2050. Has the objective of supplying their customers with carbon neutral electricity by 2050.
	4	The Počerady lignite plant to be sold to Sev.En. Polish coal-fired assets (Chorzów and Skawina power plants) and other Polish companies (other than the ESCO companies) is preliminarily scheduled for H2 2020. Increase in the ESCO (energy efficiency) services and renewables foreseen.
	5	Prolongation of lignite mine Bilina. One CHP unit at Mělník plant (will be brought online in 2022).
uniper (Germany)	1	48.1 Mt (Scope 1 and 2). 10.3 Mt (Scope 3). Additional emissions expected from Datteln 4 and Berezovskaya's new unit in 2020. Uniper's French assets' and Schkopau's emissions shifted to EPH in 2019 and 2021, respectively.
	2	Share of coal: 27% of capacity and 19% of generation[69]. Installed capacity in coal: 9.2 GW. Fortum's and Uniper's combined coal power production accounts for 2% of sales.
	3	All European coal plants have coal phase-out timelines between 2020 and 2038. The coal phase-outs are mandated by the national governments. No phase-out in Russia.
	4	Pledged carbon neutrality by 2035 in Europe. The target excludes scope 3 emissions and more than half of the overall emissions as they are generated in Russia. Transition achieved through a combination of sales, coal-to-gas ("We're forging ahead with the replacement of coal to gas"), hydrogen if commercially viable and yet unproven CCS. Uniper is allegedly seeking a reported €1 billion in compensation under the Energy Charter Treaty (ECT) from the Dutch government[70] for the closure of Maavslakte 3 plant.
	5	Datteln 4 (brought online May 2020). CAPEX still used for the Russian lignite plant Berezovskaya. (Re)introducing the 3rd unit in Q3 2020.
enel (Italy)	1	78 Mt (Scope 1 and 2). 57 Mt (Scope 3). Emissions of Reftinskaya shifted to JSC Kuzbassenergo in 2019[71].
	2	Coal share of generation: 16.4%. Coal share of revenue: 3.5%. 11.7 GW of installed capacity out of 42.2 GW. Enel/Endesa import 21 Mt coal and burn 19 Mt.
	3	Since 2017, Enel has stated to phase out coal by 2030-2032. Commitments to phase out coal in Italy and Spain by 2025. In spring, Enel confirmed the upcoming closures of the Chilean coal plants leaving only one plant in Colombia without a phase-out commitment.
	4	Gas conversion in 4 out of 5 Italian plants adding 3 GW of new gas capacity thereby violating its 2017 commitment of no capex for new fossil fuel fired generation. In February 2019, sale of the Reftinskaya coal-fired plant in Russia (3.8 GW) by the subsidiary Enel Russia to JSC Kuzbassenergo. In 2021 will likely complete the sale of remaining 50% of Novaky coal plant in Slovakia to EPH[72]. Renewable capacity is expected to rise by 14.1 GW in 2020-2022. Enel has detailed emissions reduction targets for its emissions, including scope 3.
	5	No coal expansion plans since 2015. Termpozipa plant in Colombia (about 250 MW) under refurbishment.

1. Annual emissions 2019 (scope 1-3)
2. Coal exposure
3. Status of decarbonisation plans including a 2030 coal phase-out
4. Quality of transition (coal-to-what?)
5. Coal expansion (including acquisitions)

endesa (Spain)	1	18.2 Mt (Scope 1 and 2). 27.7 Mt (Scope 3)[73].
	2	Coal share of generation: 12.45.[74] Installed capacity 4.7 GW in peninsular Spain and 260 MW in extra-peninsular Spain*. Fuel supply in 2019: Endesa bought 130 Kt of domestic coal and 3,594 Kt of imported coal[75].
	3	Endesa has proposed the "discontinuity" of all coal plants by 2030[76]. Most of the coal fleet has a detailed closure pathway. Between 2018 and 2019 Endesa has requested the Spanish government the closure of all plants[77]. Compostilla and Andorra plants are expected to shut down in June 2020[78]. The Litoral is plant expected to shut down in June 2021, depending on Government approval[79]. The exact date for the As Pontes closure is unknown (presumably before 2022). Still considering co-combustion of coal and biomass in some units[80]. Alcudia III+IV in 2025[81].
	4	Endesa is carrying out tests to see whether it is viable to burn a mix of coal+biomass in some As Pontes units. Tests are still ongoing[82]. In 2022, Endesa is planning to have 38% of renewables amounting to an additional 3.7 GW.
	5	No
fortum (Finland)	1	25.2 Mt [83] (Scope 1 and 2). 5.8 Mt (Scope 3).
	2	Share of coal-based power production of total power production: 3%. Coal share in heat production: 18%. 1.2 GW of of installed capacity. Share of coal-based sales of total sales: 4%. Coal power accounts for 18% of Fortum's and Uniper's combined production and 2% of sales[84,85].
	3	Phase-out plan in Finland aligned with the national phase-outs, closure of Swedish coal ahead of time. Political stipulation of net-zero for Europe by 2050 – but not one that covers Fortum's own production. No phase-out date for Russian (57% of Fortum's use of coal) nor Polish assets (20% of Fortum's use of coal).
	4	Coal-to-biomass, multi-fuel CHP (including peat), BECCS[86], but also waste heat, renewables & geothermal[87]. It is possible that Fortum will sell some of its coal plants, including the district heating business in Poland[88,89]. Fortum has refused to adopt a Science Based Target[90]. Fortum has Supported Uniper's legal claim against the Netherlands over its phase-out[91].
	5	Datteln 4 and Berezovskaya's new unit (via Uniper). Fortum has openly supported the opening of Datteln 4[92].

* These figures do not take into account Alcudia I + II of 250 MW which shut on 30 December 2019.

Datteln 4 (Fortum / Uniper)[93]

In the 2020 At the end of May 2020, Uniper opened the highly controversial 1.1 GW coal plant Datteln 4 – also known as the last new coal plant in Western Europe.

Uniper's predecessor E.ON started the initial construction of Datteln 4 in 2007 with the commissioning planned for 2011. Due to numerous lawsuits against the power plant's construction and emission control plans the construction was severely delayed.

In Germany, the federal government established the Coal Commission to develop a strategy to phase out the country's coal fired-power generation. In its final report, the commission explicitly recommends that no new coal power plants should go online.

Several Civil society groups have publicly announced that new legal initiatives will follow introducing permanent litigation and reputational risks.

If the litigation proves successful, the plant could also become a stranded asset. So far, each filed legal case has won.

Turów (PGE)

Turów is an open-pit coal mine located outside Bogatynia in south-western Poland, Where Poland, Czechia and Germany meet. It is owned and operated by state-owned utility, Polska Grupa Energetyczna (PGE), which is planning to expand the mine and re-licence its operation until 2044[94].

The expansion of the mine is incompatible with the EU's landmark water law, the Water Framework Directive (WFD), as it would cause unacceptable deterioration of water bodies[95].

Local residents and civic society groups from all three countries have taken legal action against the mine. The case has become a diplomatic conflict between the neighbouring countries.

Box 2: Stranded assets in the making: the last frontiers of coal expansion in the EU.

3. THE SCIENCE BEHIND 1.5 DEGREES CELSIUS

The thermal coal policy recommendations and coal phaseout analysis by the authors are rooted in climate science, mostly informed by the IPCC 1.5 degrees Celsius report and the sectoral analysis derived from the carbon budget distribution. The report was published October 8th 2018 and informs the cut-off date for coal-related loan and underwriting deals for creditors set for November 2018.

Broadly speaking, the scenarios in the SR15 database used in the IPCC 1.5 degrees Celsius report all involve either overshoot, carbon removals, CCS, or some combinations of these. These scenarios will have the lowest negative impacts, and they also have the greatest chance of staying below 1.5 degrees Celsius of global warming. Yet they also depend on a fast decrease in coal emissions, amongst other factors, and highlight why any prolonged financial support for coal explicitly jeopardises the temperature targets set in the Paris Agreement. We are quickly using up the remaining carbon budget allowed in the 1.5 degrees Celsius world, equivalent to around eight years of current emissions. Emissions must peak immediately and begin declining in line with the remaining budget.

Consequently, coal emissions will have to fall extremely fast this decade in all pathways to 1.5 degrees Celsius. COVID-19's long-term influence on these pathways is yet unknown. The analyses derived from these dictate that the most developed regions in the world (EU, OECD and Russia) must frontload the efforts and exit coal at the latest by 2030, and the rest of the world during the decade that follows and at the latest by 2040. In the context of the focus power utilities, the 2030 deadline not only covers their European coal assets but also most of the non-European assets. See table 7 below for all regional phase-out dates.

Table 7: Phase-out dates of median Paris Agreement compatible regional pathways according to Climate Analytics (2019)[96].

Region	Phase-out date
OECD	2031
Non-OECD Asia	2037
Latin America	2032
Middle East and Africa	2034
Eastern Europe and Former Soviet Union	2031

Amongst fossil fuels, coal is a short-term priority for an immediate phase-out due to its carbon intensity. However, adhering to the required speed of decarbonisation it is necessary to replace coal power with renewable energy. The carbon budget must not be strained with unnecessary gas-fired power plants. However, such a transition from coal to gas is what many utilities are currently planning.

While there are slightly more alternative transition pathways to gas phase-out (see figure 9 below), provided that the coal phase-out takes place in time, gas must also exit the energy system relatively quickly. Like other fossil fuels, not only does newly added capacity endanger the available carbon budget but also the existing infrastructure must see a declining trend in the coming decade. It is clear that gas infrastructure will pose a stranded asset risk in addition to being incompatible with the Paris Agreement. Therefore, building the necessary flexible and renewables-based energy infrastructure - that also strongly minimises biomass - is key.

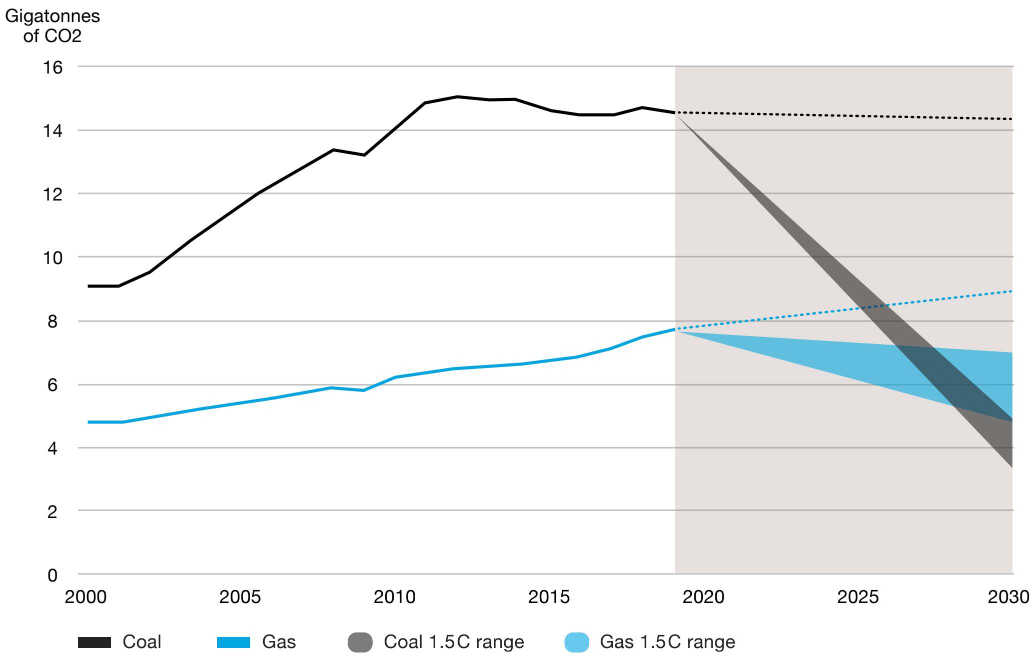

Figure 9: 1.5 degrees Celsius decarbonisation pathways for coal and gas excluding pathways reliant on higher levels of bioenergy or bioenergy with carbon capture and storage. Global emissions from coal (black line) and gas (blue), in billions of tonnes of CO2, between 2000 and 2019 (solid lines). Currently expected emissions for each fuel during the 2020s (shaded) are shown with dotted lines. Graph: Carbon Brief (February 2020).*

The IPCC is currently preparing its Sixth Assessment Report (AR6), due in 2021 and 2022[97]. In 2019, the IPCC Guidelines on National Greenhouse Gas Inventories were refined[98] with updated methodology regarding fugitive CH4 and CO2 emissions from mining, processing, storage and transportation of coal. This could have implications for the coal phase-out pathways when the new report gets released.

* Source of the original graph: Carbon Brief. (February 2020). Based on the original work of Global Carbon Project, IEA WEO2019, IPCC SR15 and Carbon Brief analysis. Based on SR15 scenarios that stay below 1.5 degrees Celsius with "no or low overshoot".

4. METHODOLOGY

This research has been commissioned by Europe Beyond Coal and was conducted by Profundo. Data was extracted from the Bloomberg Terminal and Thomson EIKON, both accessed in February 2020.

The research covers financial services to key European coal utilities, defined by Europe Beyond Coal as priorities for European coal phase-out. Support for projects or subsidiaries with no relation to the fossil fuel business are excluded from the scope of this research. For example, the excluded parts of the business include wind farm operators, solar, hydro, water utility operators, chemicals, renewable energy, biomass, telecommunications, engineering and demand-side response.

Types of financing covered are separated into investments, holdings in shares and bonds, and credit activities; namely provision of project finance or corporate loans and issuance of bonds and shares.

This study's starting point for data collection November 2018 because this reflects the period since the IPCC 1.5°C special report. Bond and shareholdings were researched on the basis of the most recent filings in February 2020. Filing dates varied between November 2018 and December 2019, with the majority of filings in December 2019. Differences in filing dates are due to different filing requirements and practices of different types of investors and the jurisdictions they operate in. Loans and underwriting deals are captured between November 2019 and December 2019.

Table 2 showing the latest loans and underwriting deals by UniCredit and Société Générale are based on a slightly more recent cut-off date from the end: the data are from November 2018 to February 2020. A later date was chosen due to the better availability of the data, while the rest of the report refers to December 2019 regarding creditors.

While the research covers banks and institutional investors worldwide, this document displays primarily European financial institutions but also includes BlackRock and the Japanese megabanks. The comprehensive list of international financial institutions are included in the annexes, capping the list at 150 for the purposes of brevity.

The institutional investors covered are banks, pension funds, asset managers and insurances with their investments in equity (shares) and debt (bonds). Pension funds are often not fully covered by the financial databases, with some exceptions such as Norwegian Government Pension Fund. It is also to be taken into account that assets of pension funds often appear under the name of funds' asset managers. The opposite is true for banks: investments appear usually under the name of the parent bank. Though undertaken by their investment branches, these entities are still controlled by the respective banks.

The data includes the SDG bond issued by Enel. This is due to missing information in the database whether the bond would be used exclusively for renewables[99].

Non-financial-corporate, individual and government or municipal shareholders are removed from the data. For this reason many of the state-owned utilities' results do not reflect the respective Czech, Finnish, Italian and Polish state shareholdings. Company ownerships, such as Enel's and Fortum's ownership of Endesa and Uniper, are omitted. Similarly, many of RWE's shareholders are also municipalities, such as the city of Essen, which also does not feature in the results. EPH's main shareholder, Daniel Křetínský, does not feature in the data.

In terms of creditors, the research covers private and public banks, providing corporate or project finance and issuing shares or bonds. Insurers' underwriting activities are not covered, as information on insurance coverage of companies or projects is confidential and is not collected in central databases. Thus, only scattered information is available that does not qualify for producing a ranking.

ANNEX I - EUROPE BEYOND COAL PRINCIPLES CRITERIA FOR FINANCIAL INSTITUTIONS FOR DEVELOPING THERMAL COAL EXIT POLICIES

The recommendations below are prepared by Europe Beyond Coal for financial institutions (investors, banks and insurance companies) and they are updated regularly. The recommendations only currently cover thermal coal. However, the Europe Beyond Coal coalition recognises the importance of developing approaches for all fossil fuels and industrial coal with the intention to update the recommendations in future to reflect that. Therefore, those financial institutions adopting coal policies must adopt a wider scope that encompasses companies associated with any high-carbon activities.

1. Overall commitment

To mitigate climate and financial risks associated with the coal sector, finance actors[100] should adopt a public "thermal coal exit policy" that supports the alignment of their business models with climate science-based targets that are consistent with the goals of the UN Paris Climate Agreement's 1.5 C temperature target. This implies that finance actors should commit to over time (2030 in OECD/Europe/Russia, 2040 globally[101]) eliminate coal assets from all business lines, and that all coal companies in which they are directly or indirectly* involved should either be forcefully engaged with or divested from.

2. Exclusion criteria for coal projects

Finance actors should not provide or renew support to coal plants, coal mines, coal equipment manufacturing and other central activities in the coal supply chain** worldwide – including project finance and other dedicated finance support, advisory mandates, insurance underwriting and investments.

3. Assessment criteria for exclusion of coal companies

The criteria below capture companies that are currently either expanding or are highly exposed to coal in relative as well as absolute terms:

- Companies with coal expansion plans, including the construction/development/expansion of coal plants and mines.
- Coal equipment manufacturers and any other coal supply chain function that contributes to the expansion of coal-related activities.
- Life extension or capacity increase of existing coal plants through retrofit/modernisation.
- Any acquisition of existing coal assets. Coal-related acquisitions are acceptable only when both of the following conditions are met:

  1) When socially just plant closures are committed to take place well before 2030 in the EU/OECD/Russia and by 2040 elsewhere.

  2) When the sale speeds up the earlier closure pledges with the new owner. Otherwise the financial institutions must reject any participation in the sales of coal assets.
- Companies producing more than 10 Mt of coal per year, or which have over 5 GW of coal power capacity.
- Companies that generate more than 20% of revenues from coal mining or from the coal-related supply chain or produce more than 20% of power from coal***, ****.

* Financial actors should employ a functional test when assessing whether a business line is in support of coal assets.

** The following activities should be considered as part of the coal supply chain: power utilities, coal mining, exploration & drilling, mining services, coal processing, coal trading, transport & logistics, equipment manufacturing, O&M services, EPC services, transmission & distribution of coal-fired electricity, Coal to Liquids (CtL) and Coal to Gas (CtG).

*** The threshold needs to be tightened regularly reaching ultimately <5% well before 2030 for the European/OECD companies.

**** We define 'production' as % of physical production or productive capacity, with physical production used where available.

By applying these criteria to their financial universe, finance actors can identify which companies are currently unlikely to be able or are unwilling to transition rapidly enough to a 100% renewables-based energy system, and reconsider their financial support* accordingly. These criteria should become stricter over time, as the deadline for a complete coal phase-out approaches.

The financial institutions must also disclose their exclusion lists.

4. Criteria for engagement with coal companies

An additional criterion needs to apply to companies that own coal assets, but are considered to still have an opportunity to transition rapidly enough to a 100% renewables-based energy system**. However, the company engagement must be transparent to ensure external accountability for the engagement objectives.

By applying targeted and impactful engagement, finance actors should ask those respective companies to:

- Adopt, within one year maximum, a decarbonisation target to gradually align their business model with the UN Paris Climate Agreement***.
- Publish, within two years maximum, a clearly articulated and detailed implementation plan for the gradual closure (not sale) of existing coal plants and mines, exiting coal at the latest by 2030 in the OECD and in Europe, and by 2040 in the rest of the world. The financial institutions must not accept sales of coal assets as contributions to decarbonisation plans, and client companies should be informed that selling coal assets is explicitly not a desired or legitimate climate action. However, those companies that contribute to coal expansion should be divested from immediately.
- Support Paris-aligned shareholder resolutions and other climate related initiatives filed at the company AGMs. Additionally, the adopted resolutions must be considered a floor, not a ceiling, for climate action.
- Financial institutions (FIs) need to treat the sales of coal plants – instead of immediate closure – with a similar gravity as norm-based violations, and regularly screen their portfolio for such cases. Any announced sales must start a rapid engagement process.
- Track corporate lobbying and intervene if there is demonstrated industry capture of key legislative files. FIs must demand that coal companies disclose their in-house lobbying practices, those of their industry associations, and must demand that they are aligned with the coal phase-out timeline. If not, the FIs must demand cessation of such practices and withdrawal of membership.
- When the investee companies engage in legal cases, including Investor-state dispute settlements, that hamper low carbon transition, the financial institution must start a rapid engagement process to stop the cases from going ahead.
- All board nominations must reflect the candidate's aptitude and a track-record in credible climate change mitigation. Similarly, no candidate should be allowed to enter the board with a track-record in watering down climate mitigation.
- Executive pay/remuneration policies should be linked to the achievement and delivery of the socially just 2030/2040 coal phase-out.
- Towards the end of the time-bound engagement process there must be an assertive escalation strategy. The strategy may include calling an extraordinary meeting, voting against the approval of supervisory board members and executives, issuing media statements, filing a shareholder resolution, asking a question at the AGM, making a complaint to a regulator, and proxy voting.

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* Financial services include lending, underwriting, advisory, insurance coverage and investment with regards to own accounts as well as third parties.

** Not including false solutions, such as gas or in some cases biomass conversions.

*** Financial institutions must gradually reduce/remove financial support within set timeframes (6, 12, 18, 24 months) if the engagement process does not lead to significant results.

- The FIs should engage in peer-to-peer pressure and convince other financiers to drop their coal support.
- The engagement framework, including the engagement targets, timelines and the engagement list exposing the investee companies, should be made publically available.
- All engagement must be coupled with a credible threat of divestment.

5. Just Transition

Financial institutions have a crucial role and responsibility in ensuring the energy transition is just, fast and sustainable. Financial institutions need to adopt Just Transition policies that:

- Do not lead to a prolongation of the lifetime of the high carbon assets.
- Ensure the affected regions/communities/workers are not pushed into sectors that are equally vulnerable or harmful* to the energy transition, and instead are actively guided into roles that support and align with the transition to a diverse, sustainable and clean economy.
- Mainstream Just Transition into the financial services across each asset class with the aim to minimise the adverse effects on regions/communities/workers and to maximise societal and environmental benefits.
- Introduce restorative capital allocation, which can be harnessed through the opportunities in affected areas** enhancing community and regional renewal.
- Respect and build on international standards***.
- Facilitate policy advocacy contributing to lobbying efforts to ensure regulation to protect the workers/communities. This could be direct, or through institutional investor coalitions, and should in particular promote regulation that encourages accountability by coal companies for their workers and for implementing the Just Transition.

Such policies should also be consolidated into climate reporting such that they include details on how the investee companies advance Just Transition (to be incorporated into the Task Force on Climate-related Financial Disclosures, for example).

When engaging with companies, financial institutions should:

- Obligate utilities to develop detailed, plant-level closure plans in line with the Just Transition. Utilities should ensure their plans sit into regional-level, strategic plans for the economic restructuring of the region in the transition.
- Must ensure that power utilities do not sell their assets to predatory buyers, which would otherwise risk the prolongation of assets, avoid social and environmental liability and leave workers exposed to the negative impacts of the transition without support.
- Include Just Transition in escalation strategies (see section 4)
- Harness investor coalitions. For example,: CA100+ signatories to incorporate Just Transition into the engagement work towards coal mining companies and power utilities.

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* This includes, for example, clean coal and in many cases harmful retrofits into gas and biomass.

** Private equity and venture capital (to boost cleaner options in affected areas), real estate and property (green infra), fixed income (including green bonds), for example.

*** These include, for example, the following: (a) The International Labour Organisation's "Guidelines for a Just Transition towards environmentally sustainable economies and societies for all"; going further to acknowledge the society-wide impacts of the transition where possible. (b) Principles and rights set out in the eight fundamental conventions identified in the International Labour Organisation's declaration on Fundamental Rights and Principles at Work. (c) the International Bill of Human Rights; (d) the Charter of Fundamental Rights of the European Union; (e) the UN Guiding Principles on Business and Human Rights; (f) Chapters IV and V of the OECD Guidelines on Multinational Enterprises on human rights and employment and industrial relations;

Industrial coal

The recommendations above cover primarily thermal coal, which refers to coal used mainly in either power generation or for heat purposes. It is to be distinguished from industrial uses such as metallurgical coal, which is used primarily as a reducing agent in steel making and other industrial processes (it also serves as the energy source producing the required high temperatures). 70% of the steel produced today uses coal. Other uses include cement and coal-derived fuels for the transport sector[102].

It is, however, of pivotal importance that the financial institutions start developing approaches that also cover industrial coal in order to achieve impact across the coal sector. According to the IEA 2019 World Energy Outlook “Investment in coal supply increasingly bifurcates into two worlds – one in which financing constraints start to bite and the other in which financing does not yet appear to be such a hard constraint.” As the use of thermal coal starts to decline in Europe, it is possible that industrial uses will account for an increasing share of the total European coal demand.

ANNEX II - FINANCIAL DATA

Investor data in full (Top 150)

* Headquarter

			European Coal Utilities								(€ million)
Rank	Investor	Country of HQ*	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
1	BlackRock	U.S.	107	654	3,069	12	483	51	2,200	417	6,993
2	Capital Group	U.S.	0		6,814						6,814
3	Vanguard	U.S.	133	464	2,184	1	311	36	619	190	3,938
4	Elliott Management Corporation	U.S.								1,912	1,912
5	Norwegian Government Pension Fund Global	Norway		421	188		372		377	185	1,543
6	Credicorp	Peru		172	1,237						1,409
7	Crédit Agricole	France	35	215	663	7	230	2	218	19	1,387
8	JPMorgan Chase		1	176	735	2	50		151	3	1,117
9	Allianz	Germany	17	37	935		33	34	27	22	1,106
10	Deutsche Bank	Germany	17	66	422	16	127	4	336	24	1,011
11	Fuh Hwa Securities Investment Trust	Taiwan			825						825
12	Fidelity International	Bermuda	0	319	251		19	0	156	0	745
13	Standard Life Aberdeen	U.K.	15	30	402	1	39	1	241	3	732
14	AFP Habitat	Chile		26	705						731
15	Fidelity Investment	U.S.	1	9	536		17	0	102	42	708
16	Pictet	Switzerland	11	6	307		126	1	196	18	666
17	State Street	U.S.	8	67	408	1	49	3	71	23	630
18	UBS	Switzerland	15	105	365	1	50	3	63	25	627
19	Dimensional Fund Advisors	U.S.	66	36	339		44	24	66	42	618
20	Banco Bilbao Vizcaya Argentaria (BBVA)	Spain		17	569		14		0	0	601
21	TIAA	U.S.	48	120	299		44	4	74	11	600
22	NN Group	Netherlands	89	0	90	2	1	378	3		564
23	AXA Equitable	U.S.	1	4	458		2		73	2	540
24	Invesco	U.S.	3	162	205		3	0	137	8	518
25	Dodge & Cox	U.S.			504						504
26	Knight Vinke	U.S.								497	497
27	Prudential Financial (US)	U.S.	0	11	312		0	1	164	2	490
28	Sun Life Financial	Canada	2	5	395		1		69	1	472
29	APG Group	Netherlands	15	207	245		3		1	0	471
30	Geode Capital Holdings	U.S.	8	59	274		35	4	63	22	464
31	Deka Group	Germany	38	34	187	14	31	3	137	13	458
32	DZ Bank	Germany	12	43	107	14	19	2	236	2	435
33	AFP Cuprum	Chile			434						434
34	AFP Capital	Chile			413						413
35	Principal Financial Group	U.S.		4	343		19		2	1	369
36	Grupo SURA	Colombia		293	73						366
37	Aviva	U.K.	43	3	28		2	272	12	1	361
38	M&G	U.K.	3	1	309		0	0	33	0	346

(€ million)

Rank	Investor	Country of HQ	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
39	Thornburg Investment Management	U.S.			341						341
40	BNP Paribas	France	4	53	127	2	121	1	30	1	340
41	Anima	Italy		1	246		4		87		338
42	California Public Employees' Retirement Sysytem (CalPERS)	U.S.	5	56	204		14	5	40	9	335
43	Scotiabank	Canada		321	6		0				327
44	Santander	Spain	0	179	99		6	39	3	0	326
45	AQR Capital Management	U.S.	0	106	172		33	1	2	0	315
46	Schroders	U.K.	2	11	128	5	0	3	162		311
47	BPCE Group	France	5	40	225		26	0	9	1	304
48	Société Générale	France	6	52	78		42	0	82	40	301
49	Franklin Resources	U.S.		8	287		0	0	1	2	299
50	Intesa Sanpaolo	Italy	1	34	241		8	0	11	3	298
51	Janus Henderson	U.K.	1	87	145		0	0	55	2	290
52	T. Rowe Price	U.S.		15	264		2	0	1	0	282
53	Lord, Abbett & Co	U.S.			282						282
54	Bank of New York Mellon	U.S.	9	87	153	2	12	0	8	3	275
55	PGGM	Netherlands	18	43	184		4	4	13	6	273
56	Ilmarinen	Finland					259				259
57	HSBC	U.K.	6	25	175		19	2	28	3	257
58	California Public Employees' Retirement System	U.S.	8	27	145		17	9	34	17	257
59	Banco Mediolanum	Italy		19	227		1	1	9	0	256
60	GMO	U.S.	4	137	109			0	5	1	256
61	Charles Schwab	U.S.	10	33	134		22	3	36	17	254
62	Skandinaviska Enskilda Banken	Sweden	4	99	49		75	2	3	8	241
63	Royal London Group	U.K.	0	2	87		10	0	135	1	235
64	Caisse de dépôt et placement du Québec	Canada	23	48	120		16	8	15	0	230
65	Credit Suisse	Switzerland	4	15	152	0	10	2	33	13	228
66	Azimut	Italy	0		161		1		44		206
67	American International Group (AIG)	U.S.	12	26	163		1	0	2	1	204
68	Nordea	Sweden	0	7	66		122		1	6	203
69	BrightSphere Investment Group	U.K.	4	9	180		2	1	1	1	198
70	Ameriprise Financial	U.S.		100	13				83		196
71	Varma	Finland					196				196
72	Aegon	Netherlands	20	24	14		14	102	19	2	196
73	Baird	U.S.			192						192
74	Wellington Management	U.S.	0	25	116		0	0	49	0	191
75	Danske Bank	Denmark	2	9	104		64		6	4	189

(€ million)

Rank	Investor	Country of HQ	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
76	AXA	France	26	4	68		11	46	31	2	188
77	PFR Partners Management	Cayman Islands		176							176
78	Northern Trust	U.S.	6	25	103		10	3	16	11	174
79	MetLife	U.S.	14	1	88		1	65	1	0	171
80	PZU Group	Poland	28					139			167
81	Power Financial Corporation	Canada	0	17	60		34		30	25	166
82	Orix Corporation	Japan	43	72	46		1	1	4	0	166
83	Lazard	Bermuda	0	2	150		7	1	1	1	161
84	Macquarie Group	Australia	1	0	154		0	0	0		156
85	Kela	Finland					154				154
86	DNB	Norway		2	140		8		2	1	153
87	Assicurazioni Generali	Italy	36	2	56		8	38	11	1	151
88	New York Life Insurance	U.S.	2	10	86		6	0	41	5	149
89	Florida State Board of Administration	U.S.	1	34	73		22	1	12	6	149
90	Legal & General	U.K.	3	11	69		10	1	44	4	142
91	La Banque Postale	France		44	65		18		7	1	135
92	AFP Modelo	Chile			133						133
93	Safra Group	Brazil		1	120		0		9	0	131
94	Eaton Vance	U.S.	11	4	84		2	5	24	1	130
95	J&T Finance Group	Czech Republic	2			126					128
96	Unigestion	Switzerland		122							122
97	Stone Bridge Asset Management	U.S.			122						122
98	Baillie Gifford	U.K.		1	89		21		9	0	121
99	OP Financial Group	Finland		5	8		96		2	5	116
100	Arca SGR	Italy		36	68		1		6	0	111
101	Goldman Sachs	U.S.	0	8	74		7	0	11	8	110
102	Zürcher Kantonalbank	Switzerland	3	5	74	0	4	0	9	13	109
103	Valtion Eläkerahasto	Finland					101				101
104	Elo Mutual Pension Insurance Company	Finalnd					100				100
105	Banque Degroof Petercam	Belgium	1	3	83		2	1	7	1	99
106	Sjunde AP-fonden (AP7)	Sweden	5	12	52		9	3	10	5	96
107	Morgan Stanley	U.S.		2	79		0	0	10	0	92
108	Allstate	U.S.			89						89
109	Voya Financial	U.S.	9	11	61		2	0	3	1	87
110	KBC Group	Belgium	4	1	61		4	1	12	0	84
111	BMO Financial Group	Canada	5	19	53		2	0	4	1	83
112	Muzinich & Co	U.S.	0		72	11					83
113	Eleva Capital	France							83		83
114	Legg Mason	U.S.	0	9	70		2		2	0	82
115	Evli Bank	Finland		3	2	1	74		2		82

(€ million)

Rank	Investor	Country of HQ	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
116	Asesoria e Inversiones Los Olmos	Chile			80						80
117	La Caixa Group	Spain		12	64		2		2		80
118	Wells Fargo	U.S.	0	0	76	0	1		0	2	80
119	Affiliated Managers Group	U.S.	1		37		36	0	5	0	79
120	Virtus Investment Partners	U.S.		41	36						77
121	Pendal Group	Australia			55				22		76
122	Landesbank Baden-Württemberg (LBBW)	Germany	2	1	16		31		11	15	76
123	Dai-Ichi Life	Japan			76						76
124	Banco de Chile	Chile			72						72
125	Prosperity Capital Management	U.K.		71							71
126	CPP Investment Board	Canada	7	6	2		13	4	37		70
127	Liberty Mutual Insurance	U.S.			70						70
128	Anbang Insurance Group	China	0	5	29		22		10		66
129	Manulife Financial	Canada	1	8	42		4	0	9	3	65
130	Munich Re	Germany	3		44		12		6	1	65
131	AG2R La Mondiale	France		13	51						64
132	PKO Bank Polski	Poland	11				8	45			64
133	First Trust Advisors	U.S.		4	19		15	5	10	11	63
134	Julius Bär	Switzerland	3		41		5		14		63
135	Tronto-Dominion Bank	Canada	1	1	59		0		1	0	63
136	SEI	U.S.	1	18	39		1		1	1	61
137	Itaú Unibanco	Brazil		0	58				2		60
138	Western & Southern Financial	U.S.			59						59
139	AG2R La Mondiale	U.S.			58						58
140	Cohen & Steers	U.S.			56						56
141	Keva	Finland					56				56
142	Vontobel	Switzerland	6	0	33		0		16	0	56
143	LarrainVial	Chile			54						54
144	Macif	France		12	35		6				54
145	Van Lanschot Kempen	Netherlands	0	1	33	8	9				51
146	BTG Pactual	Brazil		0	51						51
147	Rothschild Group	France			3	7	12		28	1	51
148	Arrowstreet Capital	U.S.			50						50
149	Ackermans & van Haaren	Belgium	1		47		1				49
150	Groupama	France		3	38		6	2			49

Table 8: The investor data based on the most recent filing date.
Source: Thomson EIKON (2020, February), EMAXX; Thomson EIKON (2020, February), Shareholdings; Thomson EIKON (2020, February), Bond Issuances; Bloomberg (2020, February).

Creditor data in full

			European Coal Utilities								(€ million)
Rank	Creditors / Banks	Country of HQ	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
1	UniCredit	Italy	100		1,172	106	1,263		185		2,827
2	BNP Paribas	France	150		453		1,263		185		2,051
3	Barclays	U.K.	150		65		1,263		185		1,663
4	Société Générale	France			346	153	638		185		1,322
5	Citigroup	U.S.	150		229	100	638		185		1,302
6	Nordea	Sweden					1,263				1,263
7	Deutsche Bank	Germany	150		283		638		185		1,256
8	Intesa Sanpaolo	Italy	100		172		638		185		1,096
9	Mizuho Financial	Japan			204		638		185		1,027
10	Morgan Stanley	U.S.		32	732				185		949
11	Skandinaviska Enskilda Banken	Sweden					676		185		861
12	European Investment Bank	Europe	330	335				64			729
13	JPMorgan Chase	U.S.			524				185		709
14	Bank of America	U.S.			501				185		686
15	Danske Bank	Denmark					638				638
16	DBS	Singapore					638				638
17	Swedbank	Sweden					638				638
18	Goldman Sachs	U. S.			416				185		602
19	SMBC Group	Japan	100		127	153			185		565
20	BTG Pactual	Brazil			562						562
21	Crédit Agricole	France			501						501
22	Credit Suisse	Switzerland			295				185		480
23	HSBC	U.K.	150		101				185		436
24	Banco Bilbao Vizcaya Argentaria (BBVA)	Spain			227				185		412
25	Commerzbank	Germany			71	100			185		356
26	Santander	Spain			150				185		335
27	Bank Pekao	Poland						325			325
28	Instituto de Credito Oficial	Spain		300							300
29	Mitsubishi UFJ Financial	Japan			114				185		299
30	Itaú Unibanco	Brazil		227							227
31	Royal Bank of Scotland	U.K.			23				185		208
32	Erste Group	Austria	100			100					200
33	Landesbank Baden-Württemberg (LBBW)	Germany							185		185
34	DZ Bank	Germany							185		185
35	Landesbank Hessen-Thüringen	Germany							185		185
36	BayernLB	Germany							185		185
37	Royal Bank of Canada	Canada							185		185
38	Lloyds Banking Group	U.K.							185		185
39	Raiffeisen Bank International	Austria	100		71						171

(€ million)

Rank	Creditors / Banks	Country of HQ	CEZ	Endesa	Enel	EPH	Fortum	PGE	RWE	Uniper	TOTAL
40	Mediobanca Banca di Credito Finanziario	Italy			162						162
41	La Caixa Group	Spain			162						162
42	ING Group	Netherlands			113						113
43	BPCE Group	France			91						91
44	Scotiabank	Canada			77						77
45	UBI Banca	Italy			71						71
46	Banco BPM	Italy			71						71
47	Bank of China	China				53					53
	TOTAL		1,580	894	8,088	763	10,835	389	4,999		27,549

Table 9: The creditor data used in this report from November 2018 to December 2019. Source: Thomson EIKON (2020, February), Loans; Thomson EIKON (2020, February), Share Issuances; Thomson EIKON (2020, February), Bond Issuances; Bloomberg (2020, February), Loan Search; Bloomberg (2020, February), Aggregated Debt.

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