

RWE

A briefing for investors, insurers and banks

This briefing gives an overview of RWE's power mix and existing coal power fleet and its outlook, the risks facing these power assets, pathways for how the utility might re-align its coal plant fleet to the UN Paris Climate Agreement as well as the actions already being taken by investors, insurers and banks.

This briefing paper presents analysis and recommendations to assist investors, insurers and banks in achieving a coal phase-out from RWE and to protect public health.

RWE at a Glance:

- The company's business model is focused on maximum exploitation of its coal assets, whilst presenting itself as a progressively renewables-based company.
- Many of its coal assets have to close 15-20 years earlier compared to its current plans for the company to align itself with the UN Paris Agreement climate objectives, with a significant number having to close already in the coming few years.
- RWE faces serious financial, policy, legal and reputational risks for its coal operations.
- It appears intent on the destruction of the Hambacher forest and several villages, whilst Germany readies itself for an accelerated coal phase-out, which would make this destruction redundant.
- RWE has lost significant public and customer support after the recent crackdown on Hambach forest protesters, severely damaging the brand's image.
- The possible increase of the EU ETS CO₂ price might further negatively influence the profitability of its coal power plants.

Investors, insurers and banks should require RWE to:

- Commit to align its business model with the UN Paris Climate Agreement and, more concretely, to adopt a time-bound climate science-based target built on forward-looking climate-scenario analysis.
- Publish a clearly articulated and detailed roadmap for the gradual closure (not sale) of existing coal plants, ending at the latest in 2030, incorporating just transition plans for affected communities and workers.
- Put an immediate end to capital expenditure into new coal plants and mines and any form of lifetime extension for existing coal plants.
- Commit to leaving the ancient Hambach forest and villages threatened by its Garzweiler mine intact.
- Investors, insurers and banks should also adopt 'no coal policies' along the lines of the 'principles and approaches for impactful public coal policies' that were developed by the Europe Beyond Coal campaign (see chapter Recommendations).



Table of Contents

1.	Introduction.....	4
2.	Current Plant Fleet and Future Outlook	5
3.	Policy financial and legal risks.....	9
4.	RWE non-alignment with the Paris Agreement	16
5.	Investor, insurer and bank action	21
6.	Recommendations.....	27

1. Introduction

In the Paris Climate Change Agreement, 195 countries committed to curb the current emissions trajectory in accordance with climate science. This commitment translated into an objective to ‘hold the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C,’ and ‘make finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development’.

The implications of the Paris Agreement for coal and renewable power are clear. Investors have recently acknowledged climate science research that support the need to phase out coal by 2030 in the Organisation for Economic Co-operation and Development (OECD) countries and in the European Union; by 2040, in China; and by 2050, in the rest of the world. More recent analysis by the IEA ‘beyond 2°C scenario’ indicates that non-OECD countries should phase out production from coal power even earlier, by 2040.

There is a growing consensus amongst leading financial institutions globally that as the world is moving irreversibly towards a low carbon economy, coal power assets are going to be stranded, and hence constitute growing financial and reputational risks.

The recent special IPCC report on 1.5°C reminded us that there is no time to waste if we want to stop runaway climate change and that big efforts lie ahead, if we are serious about limiting global warming to 1.5°C.

RWE is nowhere near having a company strategy in place that is in line with a 1.5°C world, as it intends to hold on to its coal and lignite business till mid-century

This briefing shows that RWE is not on the right track. Investors need to either divest from RWE immediately, or put RWE on notice to divest if they do not provide a socially just plan to become 1.5 degree compliant.

2. Current Plant Fleet and Future Outlook

RWE's strategic plans: holding firm onto lignite

RWE's planned acquisition of the renewables businesses of Innogy and E.ON, to be completed at the earliest in mid-2019, will propel RWE into third place of companies with the most renewables capacity installed in Europe. After announcing the mega-deal, RWE stated it was "Transforming RWE into a leading European renewables and conventional power generator".¹

The good news is that RWE will become a "leading European renewables" company; the not so good news is that it intends to remain a "leading conventional power generator". In fact, the company is still planning to invest in new coal power, and has been reported to be interested in buying competitors' coal plants. In the last year, RWE has been linked with buying the coal fleets of ENBW², Uniper³ and Engie⁴, with no public record of RWE refuting these reports. The company's decision to retain its option to build a new lignite plant might be more than it seems, as it is clear to most, including RWE management in a public statement, that the BOA+ plant at Niederaussem will likely never be built.

RWE's three large lignite coal power plants in Germany are the centrepiece of its conventional generation business, and make it Europe's largest CO₂ emitting company. RWE has moved some of the oldest units to the so-called 'lignite reserve', for which the company will receive compensation payments from the German Government. Apart from that RWE has so far only announced 2030 as an intended closure date for the lignite power plant Weisweiler, when the permit for the supplying Inden mine pit will end. The permits for the Garzweiler and Hambach mines end in 2045. CEO Rolf Martin Schmitz made it clear in 2016 that he believes the whole debate about ending existing coal is unnecessary⁵, and stated in October 2018 that RWE still intends to operate coal until 2045.⁶

Accordingly, much of RWE's strategic energy has been focused on protecting the value of its lignite plants through intensive lobbying to overturn new European pollution targets, via its membership in the trade group Deutscher Braunkohlen-Industrie-Verein' (DEBRIV), which is also in turn a member of lobby group EURACOAL⁷. RWE is also very active in lobbying European policies, holding 22 meetings with the European Commission in 2017, compared to 3 for Uniper⁸.

¹ <http://www.rwe.com/web/cms/mediablob/en/3707752/data/2495606/12/rwe/investor-relations/presentations/RWE-company-presentation-2018-08-16-pdf>

² <https://www.cleanenergywire.org/news/split-innogy-between-rwe-and-eon-shakes-german-energy-market/rwe-eyes-enbws-coal-and-natural-gas-plants-report>

³ <https://uk.reuters.com/article/uk-uniper-m-a-fortum-oji-rwe/rwe-looking-at-unipers-gas-and-coal-fired-plants-source-idUKKBN1CP0ZM>

⁴ <https://uk.reuters.com/article/us-engie-germany/frances-engie-exploring-sale-of-german-power-plants-sources-idUKKCN1GJ20Y>

⁵ <https://www.powerengineeringint.com/articles/2016/01/rwe-chief-says-ending-coal-power-is-unnecessary.html>

⁶ <https://www.wiwo.de/unternehmen/energie/rolf-martin-schmitz-rwe-plant-bis-2045-mit-kohle/23226284.html>

⁷ The official legal action can be viewed here: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62017TN0739&from=EN>

⁸ See <https://lobbyfacts.eu/representative/e094cd12c3464f8e8a49a99e98edb9cc>

In the event the lignite strategy does not work out, RWE intends to make the public pay: CEO Schmitz said this year, that "if there is a desire for coal to be phased out very quickly, we must be compensated."⁹ This approach worked well with the lignite reserve in 2016: RWE received a large share of the €1.6 billion "lignite reserve" payments for closing Frimmersdorf P and Q units, which had, based on RWE statements, already been under "intense review"¹⁰. Rather than closing these unprofitable units, RWE had kept them open to pressure the government into paying for them, as the government was desperate to find ways to be able to reach Germany's 2020 climate target.

RWE believes that its lignite and hard coal plants will be profitable in the future. But this belief is a risky bet for shareholders: As discussed later in this report, the value of its lignite business is under threat from three forces: impending decisions from Germany's Coal Commission; the quadrupling of the carbon price; and the court's postponement of a permit for the expansion of the Hambach mine to the Hambach forest, which is subject to ongoing civil society protests as well as other litigation cases.

RWE's current and future power mix and coal plant fleet

When the integration of the Innogy and E.ON renewables businesses is finalised (at the earliest in mid-2019), renewables will represent 18% of RWE's generation capacity (Gigawatts) compared to 38% for lignite and hard coal. At present, RWE says coal accounts for 51% of its total generation.

Table 1: RWE generation mix¹¹

	Lignite	Hard coal	Coal (Total)	Renewables	Gas	Nuclear	Other
Possible Future Capacity							
GW	10.3	7.3	17.6	8.3	14.8	2.8	2.8
%	22%	16%	38%	18%	32%	6%	6%
Current Capacity (2017)							
GW	11	7.3	18.3	4.1	15.1	2.7	2.9
%	25%	17%	42%	10%	35%	6%	7%
Current Generation (2017)							
TWh	74.2	29.4	103.6	11.3	53.9	30.3	3.1
%	37%	15%	51%	6%	27%	15%	2%

⁹ <https://af.reuters.com/article/commoditiesNews/idAFL8N1PI39X>

¹⁰ See <https://www.e3g.org/library/are-rwes-lignite-plants-set-for-a-taxpayer-bail-out>

¹¹ Future Capacity: Investor and Analyst Conference Call (RWE, March 2018, [PDF](#)); Current data: RWE Annual Report 2017 Page 42

Table 2 shows RWE’s coal plants. Of almost 20GW in total, 16GW is in Germany, and the rest in the UK and the Netherlands. The table shows the significant impacts of RWE coal plants on both the climate and public health:

Table 2: RWE operational coal plant fleet (Source: Last Gasp report¹², Europe Beyond Coal Database)

Plant name	Country	Capacity (MW)	Fuel	Age* (years)	2017 CO2 emissions (EUETS)	Premature deaths (modelled, 2016 emissions)	Health cost, €m (modelled, median 2016 emissions)
Neurath	Germany	4 424	Lignite	46	29 900,372	478	702
Niederaussem	Germany	3 676	Lignite	53	27 174,168	386	572
Weisweiler	Germany	1 958	Lignite	53	18 945,349	278	408
Eemshaven	Netherlands	1 739	Hard coal	3	7 587 197	50	74
Mannheim ¹³	Germany	2 146	Hard coal	36	6 858 626	93	138
Amer	Netherlands	652	Hard coal	24	3 575 313	36	54
Hamm Westfalen	Germany	820	Hard coal	4	2 709 042	54	79
Ibbenbueren	Germany	838	Hard coal	33	2 512 586	72	107
Aberthaw	UK	1 723	Hard coal	47	2 296 592	202	300
Bergkamen	Germany	780	Hard coal	37	1 639 651	60	90
Frechen/Wachtberg	Germany	128	Lignite	59	1 310 090	20	31
Fortuna Nord	Germany	16	Lignite	34	400 907	19	29
Grevenbroih-Frimmersdorf	Germany	562	Lignite	N/A	3 582 337	64	94
Werne Gersteinwerk	Germany	665	Hard coal	34	24 671	46	69

* Age of the oldest unit; some units are younger

RWE is continuing to invest in existing coal: the company spent €269m in 2017 on lignite and nuclear power plant investment¹⁴. This is additional to €147m capital investment in 2017 in its “European Power” Division, which covers hard coal and gas plants.

¹² <https://beyond-coal.eu/last-gasp/>

¹³ RWE is with 40% co-owner of this plant together with EnBW and GKM.

¹⁴ See page 50 of RWE 2017 Annual Report

RWE is Europe’s biggest CO2 emitter. Its lignite and hard coal plants emitted 106 million tonnes CO2 in 2017, making it the #1 polluter in Europe. Three quarters of that CO2 came from 3 lignite plants: Neurath, Niederaussem and Weisweiler, making them 2nd, 3rd and 5th biggest CO2 emitters in Europe

RWE’s coal plants cause significant health problems. Based on modelling with 2016 pollution data, air pollution from the plants in that year caused an estimated 1858 premature deaths. The biggest offenders were – unsurprisingly – the 3 big lignite plants, which are located in densely populated areas.

RWE has not announced a closure date for most of its coal plants: The units at RWE that have a closure date are those that have been paid to go into the so-called “lignite reserve” (Niederaussem E and F, Frimmersdorf P and Q, and Neurath C). Apart from that RWE might close Weisweiler in 2030, when the connected mine pit Inden runs out of coal. The UK and Dutch plants must close due to national coal phase-out plans by 2025 and 2029 respectively. However, apart from that, RWE’s remaining units have no plan to close and CEO Schmitz confirmed that he expects coal assets to run till 2045¹⁵.

Table 3: RWE coal plant fleet, retirement details

Plant name	Retirement details
Neurath & Niederaussem	Yet to announce, permits for Hambach and Garzweiler mines run until 2045. Five out of 16 units will retire under the German lignite reserve, but the remaining 11 units do not have retirement dates.
Weisweiler	Firm date yet to be specified: RWE says Inden mine is expected to run out in 2030, which means Weisweiler will close at around that time. ¹⁶
Werne Gersteinwerk	Combined hard coal and gas plant. Coal units will be closed in 2019 as retrofitting is not viable. ¹⁷
Mannheim, Hamm Westfalen, Ibbenbueren	Yet to announce.
Eemshaven & Amer	Must retire by end 2029 under Dutch coal phase-out. However, RWE yet to announce dates. Amer may close as early as 2020, after a court ruled that the Netherlands need to do more to meet its 2020 climate targets.
Aberthaw	Must retire by 2025 under UK coal phase-out. However, RWE yet to announce dates.

¹⁵ <https://www.wiwo.de/unternehmen/energie/rolf-martin-schmitz-rwe-plant-bis-2045-mit-kohle/23226284.html>

¹⁶ <https://www.group.rwe/-/media/RWE/documents/05-investor-relations/veroeffentlichungen-und-praesentationen/RWE-company-presentation-november-2018.pdf?la=en> p.17

¹⁷ <https://www.group.rwe/en/our-portfolio/our-sites/gersteinwerk-power-plant>

3. Policy financial and legal risks

Even though CEO Schmitz still states: “lignite is cheap”¹⁸, there are many key risks to RWE’s belief that lignite and hard coal plants will be profitable into the future. Because of the high fixed costs of mining and burning lignite, profitability is highly uncertain and cannot be assured. The following risks are already impacting RWE’s share price, and are likely to continue to do so in the coming months and years, making RWE a poor investment.

National coal phase out plans and Germany’s Coal Commission

RWE has 4GW of coal plants in the UK and the Netherlands, where the governments have already committed to phase out coal. RWE will thus be forced to close these plants before the end of 2025 and 2029 respectively. RWE spent €3.2 billion developing the Dutch Eemshaven 1600MW coal plant, which opened in 2015 and must now close by the end of 2029. The Dutch government has said that it doesn’t intend to offer compensation; RWE has said it “will assess the possibility of taking legal action.”¹⁹

This is a classic case of a “stranded asset”. Other RWE power plants may face a similar fate. Its remaining 16GW of lignite and hard coal capacity lies in Germany, where there is an active conversation around coal phase-out. The German “Coal Commission” made up of 31 board members was charged by the German government with setting an end date for coal power generation and deciding how the country will phase out its remaining coal plants.

Their decision is expected to force, over time, all of RWE’s German coal plants to close. The timelines, however, are uncertain. Whether RWE will be compensated for closing old units (over 25 years old) that have already completely recovered their investment is also uncertain.²⁰

Germany will be among the last countries in Western Europe to pledge to phase out coal generation, along with Spain, which is also now undertaking a phase out discussion (see table 4). The coal phase-out momentum is broader than Europe, as evidenced by the Powering Past Coal Alliance. This alliance was launched in November 2017 and currently counts 26 national governments (14 of them EU members), 8 subnational governments and 24 private partners – each recognising and working towards a coal phase-out ‘no later than by 2030 in the OECD and EU28, and no later than by 2050 in the rest of the world’.²¹

¹⁸ <https://www.hasepost.de/rwe-chef-droht-mit-klage-bei-abruptem-kohleausstieg-100859/>

¹⁹ See <https://news.rwe.com/draft-law-coal-phase-out-ill-judged/>

²⁰ https://www.agora-energiewende.de/fileadmin2/Projekte/2015/Kohlekonsens/Agora_Rechtsgutachten-Kohlekonsens_WEB.PDF

²¹ UK Government (2017), [Powering Past Coal Alliance: Declaration](#).

Table 4: Overview of coal phase-out plans by European governments
(Source: Europe Beyond Coal Campaign)

2021	2025	2029/30	Under discussion
France	UK	Finland	Germany
	Italy	Netherlands	Spain
	Austria	Portugal	Slovakia
	Ireland	Denmark	Hungary

Rising carbon prices

Lignite plant profitability is very exposed to fluctuating carbon prices. Carbon prices have quadrupled from about €5/tonne in May 2017, to over €20/tonne in October 2018. Based on RWE’s CO₂ emissions of 106 million tonnes from burning coal in 2017, **this will have quadrupled RWE’s annual carbon costs from €530 million to €2.12 billion for its coal plants alone.**

RWE’s plants are not entitled to any free permit allocations, so there will be no protection against such cost increases, as there has been in the past.

It is likely that less than half of these costs may be passed on through higher electricity prices. RWE’s lignite carbon intensity is around 1 100g CO₂/MWh, and Germany’s electricity prices have a marginal carbon intensity of around half of this. Also, the pass-through will fall over time: as the carbon intensity of German electricity reduces, so does the ability to pass carbon prices through to the electricity price.

Today, RWE has nuclear production, which benefits from higher electricity prices as carbon prices rise. But its nuclear plants are due to close in 2021 and 2022, so this offset will disappear, leaving its portfolio more exposed than ever to carbon prices.

Furthermore, the CO₂ price could rise even further. A report released on 21 August 2018 by Carbon Tracker called “Carbon Countdown” forecasts that the CO₂ price will rise to €25 by the year’s end, and €40 by 2020.

There is also a possibility that Germany may implement a carbon floor price, and a similar system to the Netherlands, which has a carbon price for power generators rising from €20/tonne in 2020 to €40/tonne in 2030. Pressure for this is coming from neighbouring countries (France and the Nordic countries are keen to have a carbon price), and the desire to make coal pay its costs in Germany.

RWE has been buying up carbon permits to reduce its exposure. Its current position is not clear, but it appears that the company may have no exposure up until 2021. This may allay the concerns of short-term investors, but it presents a triple cliff-edge in 2021: the end of its carbon hedge, the closure of its nuclear plants, and the potential for further rising carbon prices.

Development of Hambach mine under threat

The development of Hambach mine hit a legal obstacle in October 2018, when its development was blocked in court. The court ruled that RWE's mine development should be delayed until it had properly considered the NGO BUND's court case citing nature protection. RWE and the North Rhine-Westphalia government could not prove their claim that security of power supply in Germany would be at risk if the mining were to be delayed.²²

RWE said this would reduce their lignite generation by 9-13TWh in 2019 alone, and RWE's share price fell 10%. CEO Schmitz announced in October that if Hambach forest couldn't be cleared to mine, this would impact RWE to the tune of €5 billion. His estimate suggests that the RWE share price could fall 40% if the mine is not developed, highlighting the scale of this risk. CEO Schmitz has, however, never presented a proper calculation for this statement.

It is possible that RWE may not be able to continue the planned development of the Hambach mine. Its entire legal case is at risk, according to lawyers²³. The planning approval for opencast mining in Hambach says woods and other natural habitats "should be preserved in their ecological capacity for as long as possible, [and forest clearance] should be limited to what is necessary to carry out operations." Exactly what constitutes "necessary" is now the main argument: RWE is correct in its assessment that it will not be able to maintain power production at current levels, that it will make losses as stated and that North Rhine-Westphalia's electricity security will be threatened – then the court order makes RWE already a poor financial investment. If RWE were proven to have supplied false information this would present a reputational risk for the company and its financial backers, making it a bad investment for that reason.

Additionally, RWE may have to decide to abandon plans to develop the Hambach mine as a result of the coming German coal phase out. The decisions made by the Coal Commission will impact the mine.

RWE's reputational risk

As the Coal Commission's work progresses, public and media interest has been growing substantially. Increased reporting about how RWE's lignite generation is slowing Germany's "Energiewende" has been fuelled by the company's insistence on developing the Hambach mine and the growing resistance to the mine's expansion. Public support and sympathy for RWE has fallen to a fraction of what it once was,²⁴ which will make it harder for RWE to find support for it to be awarded compensation for closing its plants. It also makes it easier for the Coal Commission to agree a more aggressive phase-out.

Resistance to German lignite has been growing over recent years. The protesters have a diverse range of grievances, from the destruction of local villages and an ancient forest to concerns over air pollution and climate change. The iconic photo below shows Immerath Cathedral being

²² <https://www.cleanenergywire.org/news/german-court-stops-controversial-clearing-forest-lignite-mine>

²³ <https://www.dw.com/en/is-the-destruction-of-hambach-forest-legal/a-45630199>

²⁴ Voter polling for NRW following Hambach conflict: <https://www1.wdr.de/nachrichten/landespolitik/nrw-trend-222.html>; Massive image damage due to Hambacher Forest conflict: <https://www.wiwo.de/unternehmen/energie/brandindex-rwes-abgesaegtes-image/23187162.html>

destroyed in January 2018 to make way for lignite mining. In 2015, the Garzweiler open-cast mine was occupied by 1 500 activists from around the world in the "Ende Gelände" campaign; by 2017 their number had risen to 3 000; until in 2018²⁵ 6 500 people came to RWE's Rhineland pit mines in order to peacefully disrupt operations.

In the same area, for 6 years, tree occupiers have been defending the Hambach forest and delaying clearing work. Eviction of the protesters in 2018 received considerable attention, including from international media. **Weekly protest marches have been growing and culminated in a demonstration by 50 000 people on 6 October.**



Picture: Greenpeace, Bernd Lauter

Nationwide, public discussion about renewables and coal has ballooned, and renewable energy providers have experienced an influx of new customers, similar to that which followed the nuclear catastrophe in Fukushima, Japan, in 2011. The dispute over Hambach forest even threatened the work of the "Coal Commission" and thus progress towards a socially just energy transition.

Investment needed to meet future air pollution targets

Toxic pollutants from burning coal, such as sulphur oxides (SO_x), nitrogen oxides (NO_x), and particulate matter (PM), have detrimental effects on public health. Modelling with 2016 pollution data has shown, for instance, that RWE coal plants in the EU caused an estimated 1880 premature deaths in 2016 (see Table 2, above).

In April 2017, European Union member states agreed to a Best Available Techniques (BAT) Reference Document (BREF) that imposes revised pollution controls on large combustion plants.

²⁵ <https://www.ende-gelaende.org/en/press-release/press-release-28-october-2018-4-30pm/>

DNV-GL has analysed the impact of BREF on the EU coal fleet.²⁶ It found that 82% of operational coal plants would not comply with pollutant controls for SO_x, NO_x and PM in 2021. The share of non-compliant lignite plants (89%) would be even higher than the share of hard coal plants (78%). **The total capital expenditure required to make these coal plants compliant with BREF could amount to €14.6 billion.** This raises the question of whether non-compliant plants should be retrofitted to become BREF-compliant or closed to save high compliance costs.

The German authorities have yet to agree on how to implement the new BREF limits. The terms of the implementation will determine to what extent RWE will be impacted. RWE have stated that a “low-three-digit million”²⁷ euro investment, will be required to make their coal fleet BREF compliant. However, RWE assume that “the federal government will implement in the upper range of the EU emissions guidelines”. The company’s three lignite plants emit 7% of all NO_x emitted in Germany, concentrated in the densely populated area of Ruhr region around Cologne and Dusseldorf. Growing concern over NO_x levels could prompt the authorities to implement tighter-than-expected pollution limits.

IEEFA estimated in October 2018²⁸ that RWE could, in fact, be faced with costs of up to €600m just to cover NO_x abatement in its lignite plants (see table 5). The limits may also trigger extra abatement upgrades for SO₂, water treatment and mercury. IEEFA also note that “large engineering projects of this calibre are rarely on budget or on time”.

Table 5: Expected investments to comply with BREF. Source: IEEFA

Power plant name	Installed capacity, MW	NO _x emissions, mg/Nm ³	BREF limit, mg/Nm ³	Suggested upgrade	Capex, € mln
Neurath A	312	191.9	175	SNCR	15.6
Neurath B	312	191.0	175	SNCR	15.6
Neurath D	644	187.9	175	SNCR	32.2
Neurath E	644	192.5	175	SNCR	32.2
Neurath F	1,100	187.0	85	SCR	132.0
Neurath G	1,100	184.3	85	SCR	132.0
Niederaussem C	335	183.0	175	SNCR	16.8
Niederaussem D	320	185.2	175	SNCR	16.0
Niederaussem G	687	182.6	175	SNCR	34.4
Niederaussem H	687	179.9	175	SNCR	34.4
Niederaussem K	1,012	173.0	85	SCR	121.4
TOTAL					582.5

Sources: RWE; Advocacy groups; DNV.

²⁶ DNV-GL (2016), [Hard coal/lignite fired power plants in EU28: fact-based scenario to meet commitments under the LCP BREF.](#)

²⁷ <https://www.spglobal.com/platts/en/market-insights/latest-news/coal/102318-rwe-sees-lignite-fired-power-plants-profitable-into-2020s-despite-lcp-bref-investment>

²⁸ <http://ieefa.org/ieefa-report-halving-rwes-lignite-output-can-spur-low-carbon-shift-avoid-at-least-100-million-to-extend-the-life-of-ageing-power-plants/>

Other risks

Lignite decommissioning risks

RWE's biggest ever annual loss occurred when it became clear that RWE would have to pay an unexpected €6.8 billion to the Fund for the Disposal of Contaminated Nuclear Sites, as costs of nuclear decommissioning are increasing. A similar fund is now being discussed to reduce the "perpetuity costs" of lignite mining. The restoration of groundwater levels and landscapes, for example, will take over 300 years, according to RWE's own assessment. The €2 billion RWE has saved up to now is unlikely to suffice for this. Unfortunately, RWE is not able to determine what costs will be incurred, in what timeframe and for which measures. Equally unclear is how RWE is to cover these costs, as it is not obliged to use the profit of Innogy. This could be a significant risk for RWE shareholders in the future. (For more detail, see background information on lignite decommissioning costs from FÖS²⁹)

Climate Litigation Cases

Climate litigation cases pose a significant threat to both governments and coal companies. In October 2018, three German farming families together with Greenpeace Germany brought a court case against the German government for not undertaking sufficiently ambitious climate measures to meet its 2020 and 2030 GHG emission reduction targets; and dropping the 2020 target when this proved hard to achieve.³⁰ In November 2018, several citizens together with the German NGO BUND filed a similar court case with the same line of reasoning, in this case with the German Supreme Court.³¹ Should any of these two cases succeed, RWE's coal operations will be affected, as RWE operates some of the oldest and most CO₂-intensive coal power plants. The case follows other recent climate litigation cases, notably the recent Urgenda case in the Netherlands, in which the Dutch government was ordered to implement a stricter CO₂ emissions reduction target. This case will also affect RWE's Dutch coal plants. Elsewhere, Exxon Mobil has been sued³² for deceiving investors into believing that the company was managing the risks of climate change regulation in its business. And Polish energy company Enea is facing a world-first legal challenge for pushing ahead with a controversial coal power plant despite widespread market concern about exposure to climate-related financial risks.

Court decisions of this kind will accelerate carbon tax and coal phase-out policies and therefore represent additional economic risks for coal-exposed companies like RWE. Additionally, RWE itself is facing climate-related lawsuits. For example, the Philippines Human Rights Commission is investigating the responsibility of the so-called 'Carbon Majors', which include RWE, for human rights violations resulting from particularly violent typhoons in the Philippines³³. The case of a Peruvian farmer suing RWE in a court in Hamm, Germany, is also significant. He is seeking damages to fund protection measures for his home village, which is threatened by a melting glacier upstream. The case is ongoing, but the fact that the court has accepted the case and followed the claim of the plaintiffs is already a mark of some success. It is very likely that other cases against RWE will follow.

²⁹ See <http://www.foes.de/pdf/2018-09Braunkohlerueckstellungen-Empfehlungen-an-die-Kohlekommission.pdf>

³⁰ <https://www.reuters.com/article/us-germany-climatechange/climate-inaction-violates-our-rights-say-activists-in-germany-case-idUSKCN1N029L>

³¹ <https://www.zeit.de/wirtschaft/2018-11/klimaklage-bund-umweltschutz-bundesregierung-un-klimakonferenz-klimapolitik>

³² <https://www.bloomberg.com/news/articles/2018-10-24/exxon-sued-by-n-y-for-misleading-investors-over-climate-change>

³³ <http://www.lse.ac.uk/GranthamInstitute/news/the-carbon-majors-inquiry-comes-to-london/>

Blood coal

RWE is dependent on coal imports for its hard coal plants. Human rights and environmental organizations have been publicly challenging the utilities over human rights violations and environmental disasters, notably in Colombia³⁴. Europe is Colombia’s largest customer and Germany is the biggest coal importer in Europe. The Dutch peace organization PAX reported³⁵, that according to testimonies under oath coal-mining companies in the Cesar coal-mining region have been involved in financing and supporting paramilitary units, which are responsible for the killing of more than 3,100 and the forced displacement of more than 55,000 people.

RWE launched the "Bettercoal Initiative" in 2012³⁶, which claims to improve the conditions in the coal mining areas through self-assessments and producer audits. Human rights and environmental organizations have criticised the results as extremely meagre. Important issues such as the provision of support to illegal, armed groups have not been investigated.³⁷ This is why in 2017 Swedish utility and Bettercoal member Vattenfall acknowledged this failure and undertook its own Human Rights Impact Assessment in Colombia³⁸. Several European utilities have officially cut their business ties with the controversial mining companies.³⁹ Yet RWE continues to do business as usual.



In October 2018, 4 000 people blocked RWE’s coal trains at the Hambach mine. Picture: Christian Willer

³⁴ <https://global.handelsblatt.com/companies/germanys-blood-coal-797318>

³⁵ <https://www.paxforpeace.nl/media/files/pax-dark-side-of-coal-final-version-web.pdf>

³⁶ <https://www.group.rwe/en/the-group/responsibility/responsible-corporate-governance/bettercoal#>

³⁷ https://urgewald.org/sites/default/files/uge_Briefing-RWE_v5.pdf

³⁸ <https://corporate.vattenfall.com/globalassets/corporate/sustainability/doc/A-human-rights-risk-assessment-in-Colombia.pdf>

³⁹ <https://www.paxforpeace.nl/stay-informed/in-depth/stop-blood-coal>

4. RWE non-alignment with the Paris Agreement

FSB TCFD: the case for forward-looking climate assessments

The Task Force on Climate-related Financial Disclosures (FSB TCFD)⁴⁰ provides important guidance on how companies and investors can assess and disclose climate-related financial risks. It notably recommends that companies undertake and disclose forward-looking climate scenario analysis, which it considers instrumental to understanding how vulnerable organisations are to climate-related financial risks, and how such vulnerabilities can be addressed.

The following paragraphs present the impacts of climate science for coal, as well as tools that provide forward-looking analysis for RWE coal plants.

What climate science means for coal power globally and in Europe

According to latest climate science, limiting warming to 2°C by 2100 means that the net emissions of greenhouse gases need to be reduced by 40-70% by the time we reach 2050, and brought to zero by the end of the century.⁴¹ Respecting the more stringent limit of 1.5°C will require reducing emissions of greenhouse gases even more rapidly in the coming years and decades, and bring them to zero around mid-century.⁴²

This has two implications for coal power. First, research has shown that no new investments in fossil power infrastructure – notably coal – are feasible from 2017 at the latest.⁴³ Second, existing coal needs to retire early: even with no new coal plants construction, emissions from coal power generation in 2030 would still be 150% higher than what is consistent with the well below 2°C limit.⁴⁴

Investors have recently acknowledged climate science research that supports the need to phase out coal by 2030 in the Organisation for Economic Co-operation and Development (OECD) countries and in the European Union; by 2040, in China; and by 2050, in the rest of the world. More recent analysis by the IEA ‘beyond 2°C scenario’ indicates that non-OECD countries should phase out production from coal power even earlier, by 2040. In the European Union, a quarter of the coal plants already in operation will need to be switched off before 2020, and a further 47% should go offline by 2025.⁴⁵

The analysis above underscores how ambitious climate action is incompatible with continued coal power generation in developed economies. That in turn illustrates the risk of investing in new coal

⁴⁰ <https://www.fsb-tcfd.org/about/>

⁴¹ IPCC (2014), AR5.

⁴² Climate Action Tracker (Climate Analytics, Ecofys, NewClimate Institute, Potsdam Institute for Climate Impact Research)

⁴³ Pfeiffer, Millar, Hepburn, Beinhocker (2016), The ‘2°C capital stock’ for electricity generation: Committed cumulative carbon emissions from the electricity generation sector and the transition to a green economy, in Nature.

⁴⁴ ClimateAnalytics (2016), [Implication of the Paris Agreement for coal use in the power sector](#)

⁴⁵ ClimateAnalytics (2017), [A stress test for coal in Europe under the Paris Agreement: scientific goalposts for a coordinated phase-out and divestment](#)

plants or upgrading existing coal plants – which run the growing risk of becoming stranded assets. Investors, insurers and banks that wish to minimise financial risks and maximise returns must therefore drive the development by RWE of a business strategy that is aligned with the Paris Agreement.

Well below 2°C pathways for RWE: planning the coal phase-out

Carbon Disclosure Project analysis

The Carbon Disclosure Project (CDP) has developed a league table for 14 European utilities based on the risks identified by the FSB TCFD.⁴⁶ It notably assesses transition risk, introducing a model to measure locked-in emissions from current fossil fuel assets over the period 2015-2050 against companies’ implied carbon budgets to achieve a 2°C transition.

The analysis shows that RWE ends up in last position – 14th out of 14, achieving the lowest score in 3 out of 4 metrics.

Table 6: CDP league table: Utilities Risk

Figure 1: League Table summary

League Table rank	2015 League Table rank	Company	Country	Average market cap 2016 (€bn)	European market share in 2015 (%)	League Table score	Managing transition risks	Managing physical risks	Transition opportunities	Climate governance & strategy
1	3	Verbund	Austria	5	1.0%	3.78	A	A	A	B
2	1	Iberdrola	Spain	40	2.4%	5.35	B	E	A	A
3	7	Fortum	Finland	13	1.5%	6.45	B	B	B	D
4	4	Enel [®]	Italy	37	3.9%	6.48	C	E	A	B
5	11	SSE	UK	20	0.9%	6.51	C	B	C	C
6	2	Centrica	UK	15	0.6%	6.65	B	C	D	C
7	6	EDF	France	23	18.4%	6.68	B	C	E	B
8	5	EDP	Portugal	11	1.4%	6.72	D	D	A	B
9	9	E.ON [®]	Germany	17	2.7%	7.13	C	C	B	C
10	8	ENGIE	France	34	4.0%	7.98	C	C	D	C
11	12	EnBW	Germany	6	1.7%	8.22	E	C	C	C
12	10	Endesa	Spain	20	2.4%	8.66	D	D	C	D
13	-	CEZ	Czech Republic	9	1.9%	9.44	D	D	D	E
14	13	RWE [®]	Germany	7	6.5%	10.89	E	C	E	E

Fraunhofer Institute

This well-known German research institute has shown in a recent study commissioned by Greenpeace, how Germany can comply with its 2020 and 2030 climate targets.⁴⁷ Taking into account differences in net-stability in the northern and southern part of Germany and the social costs of the transition, it proposes to (a) scale down energy production by the oldest plants instead of closing them directly, to allow a transition period slow enough to be just; (b) phase out lignite entirely by 2030; and (c) retain hard coal plants only as emergency reserve, to secure power supply during a possible “dark lute”, beyond that date. Table 7 below shows the report’s findings at plant level.

⁴⁶ CDP (2017), [Charged or static - Which European electric utilities are prepared for a low carbon transition?](#) The utilities assessed are: Verbun, Fortum, Iberdrola, Enel, SSE, Centrica, EDF, EDP, E.ON, Engie, ENBW, Endesa, CEZ and RWE.

⁴⁷ https://www.greenpeace.de/sites/www.greenpeace.de/files/publications/2030_kohlefrei_fraunhofer_iee_greenpeace.pdf

Climate Analytics

Climate Analytics developed a methodology to determine a phase-out schedule for coal power units in Germany⁴⁸ and the European Union⁴⁹. It builds on a 1.5° respectively well below 2°C pathway consistent with the Paris Agreement, which is tighter than the IEA 2°C scenario (450S).

The research provides two closure dates for each coal unit based on two perspectives: the **regulator perspective** prioritises shutting down the most carbon intensive plants first, while the **owner's perspective** prioritises shutting down the least valuable plants in terms of revenue generation potential.

Both methods evaluate units on emissions performance and profit generation potential.

The table below provides an overview of RWE's coal plant closure dates under both perspectives. This analysis does not take into account national coal phase-out plans, such as those of the UK, for instance: investors, insurers and banks should be wary that the actual phase-out timeline will be more stringent than that presented by the modelling.

Table 7: Possible closure dates for all RWE coal plants according to CA and Fraunhofer Institute*⁵⁰

<i>Coal plant</i>	<i>Country</i>	<i>Opening year first unit</i>	<i>Climate Analytics: Owner Closure</i>	<i>Climate Analytics: Regulator Closure</i>	<i>Fraunhofer Institute</i>
Niederaussem	<i>Germany</i>	<i>1963</i>	<i>2019-2026</i>	<i>2019-2026</i>	<i>2020-2030</i>
Bergkamen	<i>Germany</i>	<i>1981</i>	<i>2023</i>	<i>2022</i>	<i>2025</i>
Weisweiler	<i>Germany</i>	<i>1965</i>	<i>2020</i>	<i>2019</i>	<i>2020-2025</i>
Neurath	<i>Germany</i>	<i>1972</i>	<i>2019-2027</i>	<i>2018-2027</i>	<i>2020-2030</i>
Hamm Westfalen	<i>Germany</i>	<i>2014</i>	<i>2028</i>	<i>2028</i>	<i>2030</i>
Ibbenbueren	<i>Germany</i>	<i>1985</i>	<i>2019</i>	<i>2020</i>	<i>2025</i>
Mannheim (GKM)	<i>Germany</i>	<i>1982</i>	<i>2018-2030</i>	<i>2020-2030</i>	<i>2025-2030</i>

⁴⁸ ClimateAnalytics (2018), [Coal Phase Out in Germany](#)

⁴⁹ ClimateAnalytics (2017), [A stress test for coal in Europe under the Paris Agreement](#)

⁵⁰ Coal power plant Werne not listed, as it has in the meantime a closure date of Q1 2019.

Frechen/ Wachtberg	Germany	1959	2021	2023	NA (too small)
Amer	Netherlands	1994	2020	2020	NA (outside GER)
Eemshaven	Netherlands	2015	2028	2029	NA (outside GER)
Aberthaw	United Kingdom	1971	2023	2023	NA (outside GER)

* Units that will be transferred to Germany's lignite reserve are not taken into account. A spread of dates indicates different closure estimates for the different ages of units.

Carbon Tracker Initiative (CTI)

According to a report by the think-tank Carbon Tracker, 40% of RWE's coal-fired power plants would have to be converted to new BAT air pollution limits by 2021. Carbon Tracker notes that RWE could save up to €5.3 billion if it allowed coal to be phased out in accordance with the Paris Agreement instead of converting the plants.

CTI has taken the coal-fired generation trajectory in the IEA's 'well below 2°C' scenario (B2DS), under which coal power in the EU is phased out by 2030, and developed a model to determine which units should close when, based on the profitability and location of the unit.⁵¹ Its scenario aims to replicate a phase-out from the perspective of a utility interested in maximising free cash flow.

CTI has modelled the operating cost and gross profitability of every operating coal unit in the EU and found 54% are cash flow negative as of 2017 and by 2030 this could increase to 97%. The analysis also finds that utilities avoid losing money by phasing out coal in a manner consistent with the Paris Agreement.

The table below provides an overview of RWE's coal unit closure dates following the IEA B2DS, and avoided stranded value compared to a business-as-usual scenario.

⁵¹ Carbon Tracker Initiative (2017), [Lignite of the living dead – Below 2°C scenario and strategy analysis for EU coal power investors](#).

Table 8: RWE's coal units closure date following the IEA well below 2°C scenario

Coal unit	Country	Opening year	Closure date	Avoided stranded value compared to BAU (€m)
Aberthaw 1	United Kingdom	1971	2024	-83,88
Aberthaw 2	United Kingdom	1971	2028	-107,95
Aberthaw 3	United Kingdom	1971	2022	-41,97
Amer 9	Netherlands	1994	2024	-198,45
Bergkamen A	Germany	1981	2023	-275,88
Eemshaven 1	Netherlands	2015	2022	-51,29
Eemshaven 2	Netherlands	2015	2022	-91,00
Eschweiler-Weisweiler E	Germany	1965	2022	-57,36
Eschweiler-Weisweiler F	Germany	1967	2020	-45,67
Eschweiler-Weisweiler G	Germany	1974	2022	-89,32
Eschweiler-Weisweiler H	Germany	1975	2021	-83,58
Grevenbroich-Frimmersdorf P	Germany	1966	2020	0,00
Grevenbroich-Frimmersdorf Q	Germany	1970	2018	0,00
Grevenbroich-Neurath A	Germany	1972	2018	-41,73
Grevenbroich-Neurath B	Germany	1972	2018	-52,23
Grevenbroich-Neurath C	Germany	1973	2023	0,00
Grevenbroich-Neurath D	Germany	1975	2022	-63,54
Grevenbroich-Neurath E	Germany	1976	2019	-72,41
Grevenbroich-Neurath F	Germany	2012	2018	-29,99
Grevenbroich-Neurath G	Germany	2012	2018	161,68
Hamm Westfalen E	Germany	2014	2030	-189,02
Ibbenbueren B	Germany	1985	2029	-346,06
Mannheim 6	Germany	2005	2017	-78,81
Mannheim 7	Germany	1982	2022	-172,17
Mannheim 8	Germany	1993	2029	-143,58
Mannheim 9	Germany	2015	2023	-197,90
Niederaussem C	Germany	1965	2018	-55,23
Niederaussem D	Germany	1968	2023	-56,23
Niederaussem E	Germany	1970	2017	0,00
Niederaussem F	Germany	1971	2021	0,00
Niederaussem G	Germany	1974	2024	-87,56
Niederaussem H	Germany	1974	2024	-76,40
Niederaussem K	Germany	2002	2030	-46,82
Werne Gersteinwerk K2	Germany	1984	2020	-200,64

5. Investor, insurer and bank action

There is a growing consensus amongst leading financial institutions globally that as the world is moving irreversibly towards a low carbon economy, coal power assets are going to be stranded, and hence constitute a growing financial and reputational risk. Many investors, insurers and banks have adopted coal policies that have started to affect the access to financing for RWE. An overview of these impacts is presented below, but it also highlights what additional action banks, insurers and investors need to undertake to bring RWE's business model fully in line with the Paris Agreement.

Divestment of RWE shares by German municipalities

German municipalities are under pressure to sell their stakes in RWE. Fossil Free Germany published research on their role in RWE ownership.⁵²

Sixty-two Germany municipalities hold shares in RWE, directly or indirectly. The 21 biggest municipal shareholders own about 100 million shares or one-sixth of RWE (there are around 600 million shares in circulation). These 100m shares have a market valuation of around €2 billion.

Forty percent of that sum belongs to the cities Dortmund and Essen. Both cities have strong ties to RWE: Dortmund is a former mine-workers capital and Innogy's workforce is still significant today; while RWE's headquarter is located in Essen.

Over the last 24 months, municipalities have sold 10m RWE shares valued at around €200m:

- City of Bochum - 4.4 million - October 2016 & June 2017
- District of Wesel - 1 million - March 2017
- City of Mülheim - 1 million - August 2017
- City of Herne - 450,000 - Autumn 2017
- District of Siegen-Wittgenstein - 2.4 million - June 2018

The pressure to sell is growing. Historic tax breaks enjoyed by municipalities on these holdings are being reduced, while concerns over the future value of RWE are growing. The pressure on public institutions like municipalities to divest from coal companies is growing.

This divestment is likely to impact the RWE share price directly through the sale of shares, but also indirectly. Local municipalities will no longer have a political stake in RWE, which might otherwise have influenced their position on coal. This could translate into less support for RWE mining, RWE subsidies, RWE bailouts, and more support from employees to transition out of the coal economy.

⁵² <https://gofossilfree.org/de/rwe-divestment/#netzwerk>

Impact of existing investor, insurer and bank policies on RWE

Tool: the Global Coal Exit List (GCEL)

The ‘Global Coal Exit List’ (GCEL) is the world’s largest coal company database, providing key statistics on 775 companies and their subsidiaries. The database has been developed by urgeward, is open-source, free and can be consulted on <https://coalexit.org/>.

The GCEL includes three categories of coal companies: mining, utility and service companies (i.e. companies that provide services throughout the coal value chain, such as dedicated trade, infrastructure, port terminals, finance, etc.). It provides data, statistics and identifiers (ISIN codes, if available) for each company.

- The GCEL includes utilities that qualify for one or more of the 3 following criteria:
- They are planning coal power expansion;
- They have a coal share of revenue/power generation above 30%;
- They operate more than 10 gigawatt of coal capacity.

Investor policy impacts on RWE

A significant number of mainstream European investors have adopted public coal divestment policies. The majority of these policies identify thresholds for revenues or power production from coal. However, some of these investors have also adopted divestment criteria based on companies’ absolute activity or development plans in the coal sector. Below are some examples:

- RWE’s power production of coal (51%) is above the most commonly used thresholds of 30% and 50%. Hence, the company will be affected by investor coal policies.
- Half of the **global reinsurance industry** has restrictions on coal⁵³, which mainly cover investments for their own account. Companies include Allianz, AXA, Generali, Hannover Re, Lloyd’s, Munich Re, SCOR, Swiss Re, Zurich and the Markel Corporation, which controlled 45% of the \$257.5 billion global reinsurance premiums in 2016.
- In addition to identifying companies based on their relative exposure to the coal sector, **Allianz, Generali, SCOR** and a growing number of smaller investors also screen companies that are planning new coal plants. This applies to RWE.
- RWE is one of the world’s biggest lignite miners. With an output of over 90 Mt tons of lignite per year, several policies regarding mining volumes and mining expansion that have been adopted apply to RWE, such as those adopted by AXA and Generali that exclude companies that produce more than 20 million tonnes of coal a year.

Financial institutions’ coal policies are also getting more stringent, and it can be expected that they will affect RWE increasingly in the future. In addition, investors are also increasing pressure through public engagement – as opposed to only engaging in dialogue behind closed doors. RWE is listed as one of the target companies of the **Climate Action 100+ Coalition**, which asks companies (among others) to ‘take action to reduce greenhouse gas emissions across their value

⁵³ <https://unfriendcoal.com/2018/06/19/close-to-half-global-reinsurance-market-divests-from-coal/>

chain, consistent with the Paris Agreement's goal of limiting global average temperature increase to well below 2-degrees Celsius above pre-industrial levels'.⁵⁴

The most outspoken of all investors to date regarding RWE is probably [Norwegian Storebrand](#), which responded to RWE's crackdown on the Hambach forest protectors with the following statement: "RWE Shares are Poisoned by Coal - Sell them off."⁵⁵

Insurer policy impacts on RWE

Within a very short period of time, all leading European coal underwriters, except for Hannover Re, Mapfre and the Lloyd's insurance market, have adopted public criteria restricting their insurance coverage to the coal sector.

- Allianz, AXA, Generali, Swiss Re and Zurich **have ended underwriting support to stand-alone new coal plants and mines. Munich Re has ended similar support in industrialized countries.**
- SCOR **has ruled out facultative reinsurance coverage to new mines and to new lignite plants.**
- AXA **will not provide cover to insurance packages in which more than 50% of premiums are linked to coal. This is relevant for existing coal plants and is expected to impact companies such as RWE that are strongly exposed to coal.**
- Swiss Re **and Zurich are committed to not provide coverage to companies generating more than 30% or 50% of their power production from coal.**
- **Generali** won't provide coverage to new clients that generate more than 30% of their revenues or power production from coal, produce more than 20 million tonnes of coal a year, or are planning new coal plants. Generali is also engaging with existing clients, "monitoring their plans to reduce environmental impacts, their strategy to shift to low-carbon activities and the measures envisaged for protecting the community and citizens"⁵⁶. Depending on the outcomes of the engagement dialogues in Q1 2019, Generali will decide to either end property coverage for coal-related activities of these companies or will renew them.
- **Allianz** has committed to fully phase out coal-based business models across its Property and Casualty portfolios by 2040. This implies that the insurer will have to reduce its exposure to coal companies over time and that clients will have to demonstrate their capacity to fully phase out their coal assets by 2040 or will lose Allianz's underwriting support.

⁵⁴ <http://www.climateaction100.org/>

⁵⁵ <https://www.wiwo.de/finanzen/geldanlage/kritik-an-kohlewirtschaft-rwe-aktien-sind-riskant-so-schnell-wie-moeglich-abstossen/23219036.html>

⁵⁶ Generali's coal policy can be accessed from this page : <https://www.generali.com/our-responsibilities/our-commitment-to-the-environment-and-climate>

Bank policy impacts on RWE

15 European banks have ended direct finance to new coal plants, which to date has been the main focus of bank coal policies.⁵⁷ Policies that restrict corporate loans and shares and bonds underwriting to coal utilities are less well developed, but 11 banks have adopted such policies. The following banks have adopted such policies that are relevant to RWE's activities:

- **ING** has committed to 'by 2025 no longer finance new and existing clients in the utilities sector that are over 5% reliant on coal'. This implies that the bank would not finance RWE.⁵⁸
- **ABN Amro**, also of the Netherlands, has adopted a directive imposing an "obligation not to increase coal capacity" on financed energy suppliers and has an exclusion criterion for companies that operate lignite electricity generation capacity or that do not have a lignite phase-out strategy in place. RWE fails on both criteria.
- **RBS** has prohibited financing to "electricity generation companies whereby more than 40% of their unabated power generated derives from coal", which is the case for RWE, but it could be covered by the exception: "where an existing customer is demonstrating a clear transition towards this threshold".
- **Commerzbank** will only finance German energy providers that limit their share of electricity generation from coal to less than 30% by the end of 2021. RWE claims to be able to achieve this goal with its current plans to add renewable capacity to its power mix, but given the current numbers this still seems very unlikely.
- **Société Générale** has committed to 'limit the coal-fuelled part of its financed energy mix (installed MW) at 19% at the end of 2020, in consistency with the IEA 2°C scenario'.⁵⁹ This implies that the bank has an internal decreasing 'coal budget' for new transactions with its clients, and either that clients must change their share of energy mix quickly enough or the bank needs to stop financing them. This approach could limit financing to RWE.

Several other major banks are slowly saying goodbye to coal with similar directives. In the future, it could become increasingly difficult for companies like RWE to raise money.

Investors and banks supporting RWE

Quite a few financial institutions are still maintaining business ties with RWE. Tables 9 and 10 shows data from research done by Profundo about banks and investors most heavily associated with RWE since the Paris Agreement⁶⁰.

Most important banks for RWE are Deutsche Bank and Goldman Sachs. BNP Paribas is RWE's third biggest creditor, as the power company has been able to increase its financing from the French bank even though it adopted a policy on coal in 2015. BNP Paribas committed to stop supporting companies that don't have a diversification strategy. However, this only refers to the

⁵⁷ Banktrack provides an overview of commercial banks' coal policies on their [website](#).

⁵⁸ ING (2017), [Updated Environmental and Social Risk Framework](#).

⁵⁹ Société Générale (2016), [Coal-Fuelled Power Sector Policy](#).

⁶⁰ Profundo research commissioned by: BankTrack, urgewald, Les Amis de la Terre, Re:common, Rainforest Action Network - full data to be published December 5th 2018 on coalexit.org

share of coal in the utility's power generation mix and not to the reduction of its absolute activity in the coal sector. Similar is true for Royal Bank of Scotland (RBS).

RBS is RWE's fourth biggest creditor, although it has announced that it would step away from companies with 40% or more coal share in power production. RBS allows exceptions, if a clear transition towards this threshold is demonstrated. But even if RWE's share of coal power production does decline, due to the addition of more renewables, this will not automatically lead to a smaller coal fleet and a significant decline in CO₂ emissions.

Table 9: 10 Banks providing over €500 m financial support 2016-18 to RWE (amounts in € m)

Rank	Bank	Country HQ	Loans	Underwriting	Total
1	Deutsche Bank	Germany	261	1172	1433
2	Goldman Sachs	United states	220	1172	1392
3	BNP Paribas	France	261	651	912
4	Credit Suisse	Switzerland	220	651	871
5	Royal Bank of Scotland	United Kingdom	220	383	604
6	Bank of America	United States	127	470	597
6	UBS	Switzerland	127	470	597
8	Landesbank Baden-Württemberg	Germany	423	147	570
9	Santander	Spain	220	338	558
10	Royal Bank of Canada	Canada	220	338	558

Note: We also accounted all company loans to Innogy and Innogy Finance, a fully controlled RWE subsidiary that in 2017 was responsible for 88% of RWE's revenue.

Black Rock is RWE's biggest investor. It is surprising to see the Norwegian Government Pension Fund being the number two, as it declared it would divest from coal, making it a frontrunner on climate policies in 2015. Unfortunately, the Fund does not apply its divestment to RWE and thus is now the lignite giant's second biggest investor after BlackRock.

Third and fourth biggest investors are Vanguard from the USA and the French Bank Crédit Agricole.

For Société Générale, ranking as number four in previous table, its coal policy has deleted the French bank from RWE's creditor ranking. But as its commitment does not refer to the investment side of its business, it is still fifth among RWE's investors.

Table 10: RWE's Top 10 Investors 2016-18 (amounts in € m)

Rank	Investor	Country HQ	Shares	Bonds	Total
1	BlackRock	United States	1 527	262	1789
2	Norwegian Government Pension Fund	Norway	534		534
3	Vanguard	United States	406	103	510
4	Crédit Agricole	France	253	60	313
5	Société Générale	France	178	53	230
6	Franklin Resources	United States	219	0,39	220
7	MainFirst	Germany	203		203
8	Standard Life Aberdeen	UK	37	152	189
9	Japanese Government Pension Fund	Japan	147	18	165
10	Deutsche Bank	Germany	127	25	152

Note: We also accounted all investments in Innogy and Innogy Finance, a fully controlled RWE subsidiary that in 2017 was responsible for 88% of RWE's revenue.

6. Recommendations

Investors, insurers and banks should require RWE to:

- Commit to align its business model with the UN Paris Climate Agreement and its temperature limits as well as, more concretely, to adopt a time-bound science-based climate target built on forward looking climate-scenario analysis.
- Put an immediate end to capital expenditure into new coal plants and mines and any form of lifetime extension for existing coal plants.
- Commit to leaving the ancient Hambach forest and villages threatened by its Garzweiler mine intact.
- Publish a clearly articulated and detailed roadmap for the gradual closure (not sale) of existing coal plants, ending at the latest in 2030, and which incorporates just transition plan for affected communities and workers.

Investors, insurers and banks should also adopt ‘no coal policies’ along the lines of the ‘principles and approaches for impactful public coal policies’ that were developed by the Europe Beyond Coal campaign (see box below).

Europe Beyond Coal’s principles and approaches for impactful and meaningful public coal policies for financial actors

In order to meet the UN Paris Climate Agreement goals of limiting “global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C”, no new coal power capacity may be built and coal power will need to be phased out in the coming years. Investors have recently acknowledged climate science research that supports the need to phase out coal by 2030 in the European Union and in Organisation for Economic Co-operation and Development (OECD) countries; by 2040, in China; and by 2050, in the rest of the world. More recent analysis by the IEA ‘beyond 2°C scenario’ indicates that non-OECD countries should phase out production from coal power even earlier, by 2040.

A. Overall commitment: to mitigate climate and financial risks associated with the coal sector, finance actors* should adopt a public “no coal policy”, which supports the alignment of their business models with climate science-based targets that are consistent with the goals of the UN Paris Climate Agreement. This implies that finance actors should commit to over time (2030 in OECD/Europe, 2040 globally) eliminate coal assets from all business lines, and that all coal companies in which they are involved should either be actively engaged with or divested from.

B. Exclusion criteria for coal projects: as a consequence, finance actors should not provide or renew direct support to coal plants/mines/infrastructures worldwide - including project finance and other dedicated finance support, advisory mandates, insurance underwriting, investment.

C. 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 plant/mine/infrastructure, and life extension of existing coal plants through retrofit, acquisition of existing coal assets;
- Companies producing more than 20 Mt of coal per year, or with over 10 GW of coal power capacity;
- Companies that generate more than 30% of revenues from coal mining or produce more than 30% of power from coal.

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

D. Criteria for engagement with coal companies: additional criteria need 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. 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 in 2030 in the OECD and in Europe, and in 2040 in the rest of the world.

By applying these four recommendations, a finance actor will achieve zero coal exposure within the respective decarbonisation timeframes.

*Finance actors include banks, insurers and investors.

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

***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.

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Europe Beyond Coal is an alliance of civil society groups working to catalyse the closures of coal mines and power plants, to prevent the building of any new coal projects and hasten the just transition to clean, renewable energy and energy efficiency. Our groups are devoting their time, energy and resources to this independent campaign to make Europe coal free by 2030 or sooner. beyond-coal.eu

These organisations have contributed to the development of the paper:

- BankTrack
- Sandbag
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- WWF European Policy Office

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